2002-2003 Vertebrate Inventory
John Day Fossil Beds National Monument

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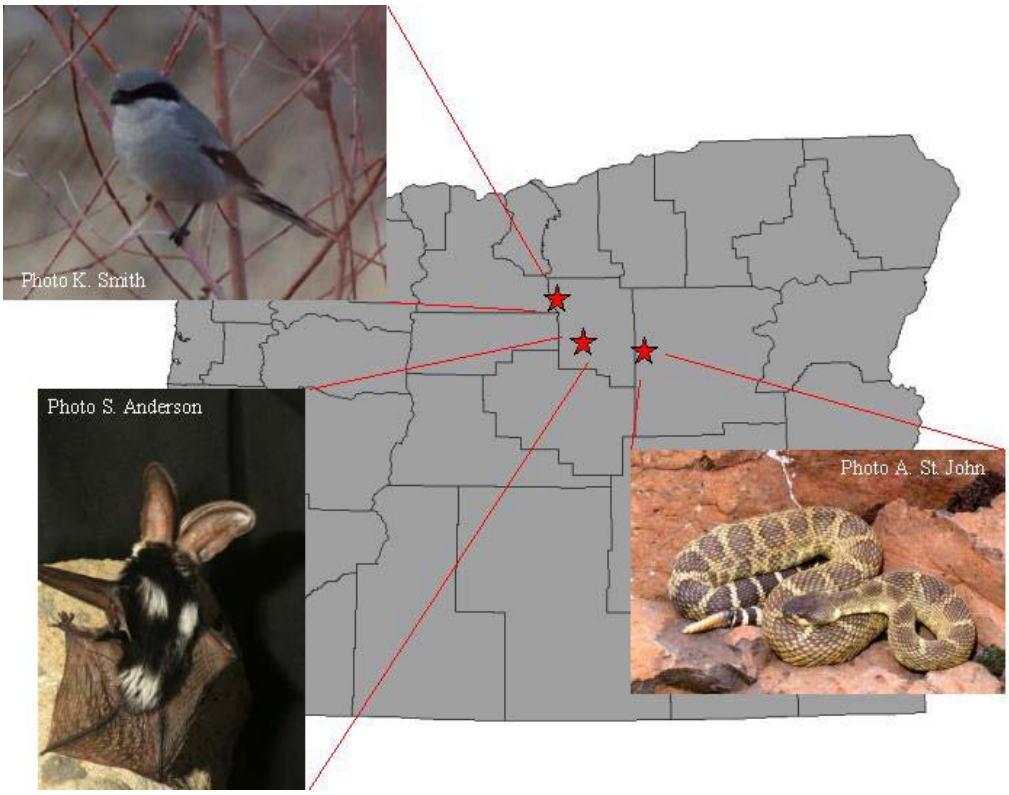

Tom Rodhouse, Alan D. St. John, and Lisa Garrett
University of Idaho
Department of Fish and Wildlife
Moscow, Idaho 83844-1136

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Executive Summary

The 2002-2003 John Day Fossil Beds National Monument vertebrate inventory developed species lists and additional information on birds, mammals, and herpetofauna in the John Day Fossil Beds of eastern Oregon. Fish were not included in the vertebrate inventory. Information on this vertebrate class is being assembled from recent state survey data. The University of Idaho Department of Fish and Wildlife Resources conducted the 2002-2003 inventory under a cooperative agreement with the National Park Service Upper Columbia Basin Network in partial fulfillment of the first phase of the Natural Resource Challenge Inventory and Monitoring Program. The primary goal of the inventory was to confirm 90% of the species expected to occur in the monument. Additional goals included developing baseline data for monitoring as well as providing the National Park Service and the research community-at-large with new and important information on the biodiversity of the region.

Expected species lists were developed from available historic sources and expert opinion. A set of four criteria was used to determine the likelihood of detection in the park. Inventory fieldwork utilized a variety of methods to achieve the primary objective, including visual encounter surveys, point counts, and trapping. Species documentation included the collection of voucher photographs, specimens, digital bat call recordings, and field observation records. Inventory fieldwork included several brief visits to the monument in 2001 and extensive fieldwork was conducted in 2002 and 2003. Information from the 2001-2003 Antone Christmas Bird Counts was included as well as information from recent NMBS Wheeler County fall migration counts. Results from a separate University of Idaho bat radio telemetry project conducted in the monument in 2003 are included. Recent vertebrate sightings from monument staff also contributed to the inventory results.

The 2002-2003 inventory was productive and brought species confirmation totals to 97% for birds, 90% for mammals, and 89% for amphibians and reptiles. One-hundred forty-two species of expected birds have been confirmed in or adjacent to the monument. Thirteen additional species that were not expected were also recorded in the monument. The 2002-2003 inventory yielded the first record of the peregrine falcon (*Falco peregrinus*) for the monument. Forty-six species of mammals were confirmed in the monument during 2002 and 2003 and one of these, the bighorn sheep (*Ovis canadensis*), was not expected to occur there. All 14 species of bats expected to occur in the monument were documented. The discovery of the spotted bat (*Euderma maculatum*) in all 3 units of the monument was particularly exciting since the species is virtually unknown in Oregon and is rare throughout its range. A total of 5 species of amphibians and 12 species of reptiles were documented in the monument in 2002 and 2003. Only two expected species of herpetofauna, the pigmy short-horned lizard (*Phrynosoma douglasi*) and the rubber boa (*Charina bottae*), remain to be confirmed. A unique and isolated population of western whiptail (*Cnemidophorus tigris*) lizards was found in the Foree portion of the Sheep Rock Unit.

I. Introduction

This report summarizes the results of the 2002-2003 inventory of vertebrates (except fish), summarizes historic information, and contains brief accounts of each species present or expected to occur in the John Day Fossil Beds National Monument (JODA). Information on species that are possible but unlikely to occur in the monument is also provided.

The 2002-2003 vertebrate inventory was conducted in the John Day Fossil Beds by the University of Idaho Department of Fish and Wildlife Resources under a cooperative agreement with the National Park Service Upper Columbia Basin Network. The inventory is part of a nationwide inventory and monitoring (I & M) program initiated by the National Park Service Natural Resource Challenge. In 2000, the Northern Semi-Arid Network, in which the John Day Fossil Beds is part, began implementing the inventory phase of the I & M program in several network parks and monuments. Historic information available on the plant and animal populations within the network were assembled and an estimate was made of the percent of species expected to occur in each park. The John Day Fossil Beds was among the majority of network parks that had a low percentage (below 50%) of confirmed species of vertebrates and was in need of a concerted effort to meet the I & M goals.

The primary goal of the inventory phase of the I & M program was to document the presence of 90% of the plant and animal species expected to occur within the historic site boundary or within a distance to the boundary that is relevant to the biology of the organism and to park management. Secondary goals of the inventory included providing baseline information that will help guide the development of the I & M program's vital-signs monitoring strategy. Tertiary goals included providing both the NPS and the research community-at-large new information on the distribution, habitat association, and population status of the nation's biological resources. Ultimately, the I & M program is designed to help the NPS take a leading role in the preservation of the nation's biodiversity. Completing basic biological inventories is a crucial first step in achieving that goal.

II. Study Area

The John Day Fossil Beds National Monument is comprised of three separate units located in the John Day River valley of eastern Oregon. The monument was established in 1975 and congressional boundaries include a total of 14,014 acres. The monument consists of three separate units. Sheep Rock, located in western Grant County, is the largest unit and contains 8916 acres. The Sheep Rock Unit includes two small disjunct subunits, Cathedral Rock and Foree. The monument headquarters are located at the historic Cant Ranch in the Sheep Rock Unit. The two smaller units of the monument are the Clarno and Painted Hills Units. Both of these are located in Wheeler County and contain 1969 and 3129 acres, respectively. Ownership patterns adjacent to the monument consist of a mosaic of Bureau of Land Management (BLM), tribal, and private lands and this ownership pattern is very influential in the biological diversity of the monument. The John Day Fossil Beds lies within a growing matrix of land dedicated to conservation of natural resources. The Confederated Tribes of Warm Springs have recently purchased over 15,000 acres of land adjacent to the Clarno Unit for long-term conservation of fish and wildlife. Several BLM natural research areas are also located near the monument.

The three units of the John Day Fossil Beds are located along the main stem of the John Day River and three major tributaries; Pine Creek, Bridge Creek, and Rock Creek. Elevation in the monument ranges from approximately 1380 feet in the Clarno Unit, to a high point of approximately 4114 feet in the eastern boundary of the Sheep Rock Unit. The majority of the monument, including much of the Painted Hills, lies within 2000 to 2500 feet. The extensive rain shadow cast by the Cascade Mountains and Ochoco mountains to the west dominates the climate of the monument. Winters are cool and dry and summers are hot and dry. Rainfall patterns are variable in the region but most falls in the early spring and late fall (Oregon Climate Service 2003). Thirty-year averages available from a weather station near the town of Dayville, 8 miles up the John Day River from the Sheep Rock Unit, show that total annual precipitation is approximately 11 inches (Oregon Climate Service 2003). Records from Mitchell, near the Painted Hills Unit, are similar, and the Clarno Unit may receive even less precipitation because of its low elevation (Oregon Climate Service 2003). Data from the rain gauge at the monument headquarters indicate that rainfall there has been below average in recent years. The total precipitation in the Sheep Rock Unit for 2001 and 2002 was 10 and 6.5 inches, respectively (Ken Hyde, JODA, personal communication). In 2003, precipitation was higher, with a total of 11.5 inches recorded at Sheep Rock (Ken Hyde, JODA, personal communication). Snowfall represents a significant proportion of the winter precipitation but snowpack is ephemeral and rarely lasts more than a few days. Thirty-year January and July mean temperatures from Dayville are 36 and 71 degrees Fahrenheit, respectively (Oregon Climate Service 2003). Thirty-year mean January and July maximum and minimum temperatures are 45 and 90 degrees and 27 and 52 degrees, respectively (Oregon Climate Service 2003). It is important to note that winter and summer temperature extremes frequently drop below zero in the winter and above 100 degrees in the summer.

All three units lie within the Blue Mountain physiographic province and the John Day ecological province (Franklin and Dyrness 1988, Anderson et al. 1998). These designations are useful in that they indicate some geological and ecological consistencies between all three units. The area is rugged, with steeply dissected hills and cliffs (Anderson et al. 1998). The soils of this region are largely volcanic clays and tuffs that have a profound influence on the vegetation. Higher portions of the monument are capped with ancient flood basalts and lithosols have formed in these areas. Much of the monument, especially in the Painted Hills Unit, contain bare and sparsely vegetated slopes of clays. Juniper-sagebrush steppe vegetation dominates most of the monument (Franklin and Dyrness 1988). Western juniper (*Juniperus occidentalis*), big sagebrush (*Artemisia tridentata*), and bluebunch wheatgrass (*Agropyron spicatum*) are the characteristic plants of that vegetation type (Franklin and Dyrness 1988). In many areas, dense stands of juniper trees create a juniper woodland, with a much reduced shrub and grass component. There are extensive riparian habitats along the John Day River in the Sheep Rock Unit dominated by coyote willow (*Salix exigua*), black cottonwood (*Populus trichocarpa*), and a variety of sedges, rushes, and grasses. There is a unique riparian vegetation type along Rock Creek that is dominated by mountain alder (*Alnus incana*). Other wetland habitats include small seeps and springs as well as one depressional wetland found in the southern end of the Sheep Rock Unit near Picture Gorge. Other unique vegetation types include alkaline playas with greasewood (*Sarcobatus vermiculatus*) and shadscale (*Atriplex confertifolia*) that resembles vegetation of the Great Basin. Mountain mahogany (*Cercocarpus ledifolia*) stands are found extensively along rimrock and cliffs of the Sheep Rock Unit. Lithosols on upper elevation slopes and ridges support a unique vegetation type characterized by stiff sagebrush (*Artemisia rigida*), Idaho fescue (*Festuca idahoensis*), and a variety of forbs such as pincushion phlox (*Phlox hoodii*), lomatiums (*Lomatium spp*.), and desert buckwheat (*Eriogonum spp*.). Two natural research areas in the Sheep Rock Unit contain lithosol habitats where the unique hedgehog cactus (*Pediocactus simpsoni*) is found.

In all habitats in the monument, the western juniper and a variety of introduced weeds are spreading and having a pronounced effect on those habitats (Anderson et al. 1998). A significant effort by the monument is underway to control these species through mechanical and chemical removal and the use of prescribed fire (Ken Hyde, JODA, personal communication). Fire, including natural ignitions, is an important ecological mechanism affecting vegetation in the monument and the vertebrate communities that it supports. Historic vegetation conditions in the park are believed to have contained much more extensive perennial grasslands with patchy stands of shrubs and juniper (Buhl 1975, Campbell 1976, 49th Congress House of Rep., ex. Doc. No. 131 1886, Anderson et al. 1998). Grazing and fire suppression are believed to have caused a dramatic increase in the densities of woody vegetation at the expense of grasses and forbs (Anderson et al. 1998). Natural ignition fires in the Clarno Unit during the 1990's have greatly reduced the amount of juniper and sagebrush stands and increased the amount of native perennial and introduced annual grasses. Natural fires are less frequent in the Painted Hills and Sheep Rock Units and prescribed fires are being used in an attempt to reduce the amount of juniper and sagebrush (Ken Hyde, JODA, personal communication). Fire is presumably having a strong influence on the vertebrate communities in the monument.

III. Methods

The methods utilized in the 2002-2003 inventory generally follow those laid out in the Northern Semi-Arid Network Study Plan (Wright et al. unpublished) and published literature on inventory methodologies (i.e. Wilson et al. 1996). Universal Transverse Mercator (UTM) locations given in this report were collected using Garmin 12-channel Etrex hand-held GPS units (Garmin International, Inc, Olathe, KS, USA). Most x and y coordinates (Eastings and Northings) are accurate within 10 meters. No accuracy estimate is available for elevation data provided by the GPS unit. Locations taken directly from USGS 7.5 minute topographic maps are accurate within approximately 125 meters. UTM locations are in zone 10 for Clarno and Painted Hills, and zone 11 for Sheep Rock. The North American Datum of 1927 (NAD 27) was used as the horizontal datum for all locations.

Scientific and common names used in this report follow the Integrated Taxonomic Information System (ITIS). The ITIS follows closely the American Ornithological Union's 7th edition of the checklist of North American birds and the USGS Biological Resource Division's unpublished and expanded update of the 1987 Checklist of Vertebrates of the United States, the U.S. Territories, and Canada (ITIS 2003).

The monument boundary was used as the primary boundary of the inventory; however, many species that were observed near the monument were included. This flexibility in boundary was necessary because of the distribution of the monument units and because dispersal abilities of many of the species enable them to move on and off the monument. In the Clarno Unit, species observed along Pine Creek and highway 218 adjacent to the southern boundary of the monument were included (see figure 1). In the Painted Hills Unit, species encountered along Burnt Ranch road and the agricultural fields adjacent to the northeast boundary of the monument were included. Species encountered at the reservoir adjacent to the northern boundary of the monument near the Painted Cove were also included (see figure 2). In the case of the Sheep Rock Unit, species observed along portions of highway 19 and the John Day River between the northern portion (Foree) and the main portion of the Sheep Rock Unit were included (see figure 3).

A. Expected Species

A variety of methods and materials were used to determine which species of birds, mammals, and herpetofauna were expected to occur in the monument. Expert opinion was used to critically examine published range maps and distribution literature from a variety of sources, historic park service reports and observations, and habitat types occurring in and adjacent to the monument. Range, elevation, habitat, and species detectability were considered and developed into a criteria set that was used to place species into "expected" and "possible but not expected" categories. Detectability was included in the consideration in order to address species that naturally occur in low abundances or are in some other way very difficult to confirm through established survey

protocols. The primary sources used for birds were the Wildlife Atlas of Oregon (Csuti et al. 2001), Oregon Breeding Bird Atlas (Adamus et al. 2001), Peterson Field Guide to Western Birds (Peterson 1990), and the National Audubon Society Sibley Guide to the Birds (Sibley 2000). The primary sources used for mammals were the Land Mammals of Oregon (Verts and Carraway 1998), Ground-dwelling Squirrels of the Pacific Northwest (Yensen and Sherman 2003), and the Wildlife Atlas of Oregon. The primary sources for reptiles and amphibians include the recently published Reptiles of the Northwest (St. John 2002), The Herpetology of the Upper John Day River Drainage, Oregon (St. John 1984), Amphibians of Oregon, Washington, and British Columbia (Corkran and Thoms 1996), and Amphibians of Washington and Oregon (Leonard and Storm 1993). Historic information included wildlife observation cards collected from visitors and staff at the monument, Oregon Natural Heritage Program archive data, past Christmas bird counts, published research reports (Black and Storm 1970, Barss and Forbes 1984, Lewis 1993, 1994), and a variety of unpublished technical reports prepared for the monument (i.e. Janes unpublished).

B. Sampling Site Selection

A subjective, non-random sampling site selection procedure was adopted for the 2002-2003 inventory. This approach was determined to be the most efficient and effective given the primary objective of the inventory and the limited number of field personnel. Specific habitats and locations were identified and targeted for sampling in order to maximize the opportunities to encounter as many previously undocumented species as possible. While a majority of the inventory effort was concentrated near roads and trails due to logistical considerations, effort was made to periodically search more remote portions of the monument in order to ensure adequate dispersion of sampling locations. Seasonal changes in species presence or detectability were also an issue and required multiple visits to sites over the course of the year. In the case of birds, migrants and winter residents comprise a significant proportion of the expected species and inventory efforts were conducted during the winter months as well.

C. Visual Encounter Surveys

The visual encounter survey was the primary method used to inventory reptiles and amphibians, and was used extensively in the bird inventory. Visual encounter surveys were conducted by methodically searching target habitats. Cover turning was incorporated into the herpetological surveys. Surveys for birds involved the use of both visual and aural cues for documenting species presence. Weather was a significant factor in the herpetological surveys, and surveys were normally conducted during times and days when temperature, wind, and precipitation were optimal for reptile and amphibian activity. During the spring and summer, bird surveys were normally conducted during the morning hours. Incidental observations made of all vertebrates in or near the monument during travel and other inventory activities were included under the visual encounter category as well. Incidental observations contributed significantly to the

overall success of the inventory and enabled participation from volunteers and NPS staff. Joel Geier, Antone Christmas Bird Count compiler, and Mark Berry, ranch manager of the Confederated Tribes of Warm Springs' Pine Creek Ranch provided bird sightings made on or adjacent to the monument. Additional visual encounter surveys for birds included the 2002 Antone Christmas Bird Count and the NMBS 2003 Wheeler County Fall Migration Count. A co-author of this report participated in both of these events and sightings made along portions of the routes that overlapped with the monument were separated from total event results. Ancillary information recorded during visual encounter surveys included age, sex, time, location, habitat, and notes of interest. For herpetofauna, weather conditions as well as ground and ambient air temperatures were also recorded.

D. Point Counts

The variable-circular plot point count was employed in the bird inventory during the 2002 breeding season and followed protocol outlined by Ralph et al. (1995) and Reynolds et al. (1980). While the point count is normally used to estimate species richness, abundance, and density, the point count was used here as an inventory tool by enabling a single observer to systematically document common species across a relatively large area. Results from the point count will also provide pilot data for monitoring.

Point count stations were primarily located along linear features such as roads, trails, canyons, and ridges. This allowed for a single observer to walk and drive transects and complete counts more efficiently. A minimum of 250 meters between stations was maintained in order to avoid double counting of individual birds. Point counts were conducted between sunrise and 10 am during April-July. Repeat visits to stations were made to the most productive areas but logistical constraints limited the number of repeat visits. Travel to stations was done on foot and by vehicle. Birds flushed or observed during travel to stations were noted on the data sheet of the closest station. Point counts began 1 minute after arrival to the station to allow birds to resume normal activity. Counts lasted for 10 minutes and birds seen or heard and their distance from the station center in 10-meter increments were recorded. Ancillary information included time, location, weather, topography, and habitat.

E. Trapping

A variety of trapping techniques were used to inventory small mammals and bats and generally followed procedures outlined in Jones et al. (1996), Cooperrider et al. (1986), Kunz (1988), and the Northern Semi-Arid Network Study Plan. Capture and handling procedures were consistent with those outlined by the Ad Hoc Committee on Acceptable Field Methods in Mammalogy (1987) and were approved by the University of Idaho Institutional Animal Care and Use Committee.

1. Small Mammals

The primary technique used for small mammals involved the use of Sherman live traps and Museum Special snap traps placed along 150-meter transects. Trap stations were established approximately every 15 meters and 1 live trap and 1 snap trap were placed at each station. Transects were pre-baited for 3 days and traps were set for two consecutive nights. Traps were placed within 2 meters of the transect center and were placed non-randomly near microhabitat features and mammal sign in order to maximize capture success. Traps were baited with peanut butter, crimped oats, and black oil sunflower seeds.

Pitfall trap arrays were used as a means of targeting shrews and as an alternative technique for voles, mice, and herpetofauna. In 2002, Pitfalls were constructed from #10 size coffee cans and 5 foot strips of hardware cloth used as drift fencing. Pitfalls were usually left in place for 1 week. The locations of pitfalls were carefully chosen to minimize soil and vegetation disturbance and to maximize capture success. In 2003, pitfall arrays were constructed following methods outlined by Stokes et al. (2001) and involved the use of four 5-ga. plastic buckets connected by three 10-meter drift fences constructed from heavy plastic sheeting and wooden stakes. These arrays were installed as semi-permanent features in specific habitats where undocumented shrews and voles were expected to occur. Bucket lids were used to close traps during periods when no observer was available to monitor them and were used as sun and rain shields when traps were opened.

Miscellaneous trapping techniques included the use of Havahart and Tomahawk wire cage traps targeted for skunks and weasels and Museum Special snap traps baited for shrews with liver paste and placed near water. Ancillary data collected with small mammal captures included time, date, location, weather, moon phase, topography, age, sex, and habitat.

2. Bats

Mist netting was the primary bat capture technique used in the inventory and generally followed methods outlined in Kunz (1988). Mist netting in 2002 was conducted strictly for inventory purposes. In 2003, a separate bat radio telemetry project was conducted by the University of Idaho and allowed for additional mist netting and led to the identification of several important bat roost sites in the monument.

Mist nets designed specifically for bats (i.e. 38mm mesh size with reduced bag) were placed over water and in bat flyways. A range of net lengths (2.6, 6, 9, and 12 meters) was used in different arrays in response to topographic and strategic considerations. Nets were opened at sunset and kept open until midnight or later. On some nights nets were closed early in response to low bat activity, inclement weather, or other logistical considerations. Productive sites were revisited multiple times in order to detect seasonal and nightly variation in species presence. A second capture technique was used that involved a hand-held "H" net consisting of a modified mist net strung between a hand-

held frame of PVC pipe (Waldien and Hayes 1999). The "H" net was used to capture bats at night roosts under bridges and in buildings. Ancillary data collected with bat captures included time of capture, date, location, weather, time of sunset, moon phase, age, sex, reproductive condition, forearm length, and habitat. Tissue samples were collected from little brown myotis (*Myotis lucifugus*) and Yuma myotis (*Myotis yumanensis*) for the purpose of confirming species identification using genetic techniques. These two species are very difficult to distinguish in the field and are often misidentified. A graduate student at Portland State University conducted the genetic analysis has provided species confirmations for all samples.

F. Bat Acoustic Surveys

The *Anabat* bat detection system (Titley Electronics, Ballina, NSW, Ausralia; Corben Scientific, Rohnert Park, CA, USA) was used to record and analyze the ultrasonic calls emitted by bats during foraging and commuting. The *Anabat* system consisted of an *Anabat* II bat detector, type 6 standard Zero-Crossings Analysis Interface Module, an IBM-compatible laptop, *Anabat* 6 software, and Analook software. A 12-volt 100-watt handheld spotlight was used during recording sessions to illuminate flying bats and provide visual cues to aid in species identification. Species identification of free-flying bats was the primary application of *Anabat* in the inventory, although information on bat activity was also obtained from the use of *Anabat*. A library of *Anabat* call files was developed by recording calls emitted from bats released during capture sessions. The library was used to enhance the species identification of calls recorded from free-flying bats. The *Anabat* system was used simultaneously during mist netting sessions and alone in locations where mist netting was impractical or likely to be unsuccessful. Ancillary information collected with *Anabat* recording included time and location. Library calls included positive species identification, age, sex, forearm length, and notes of interest. Voucher calls were also obtained from individual little brown and Yuma myotis that had tissue samples taken from them. These voucher calls are being analyzed to determine the characteristics of Yuma and little brown myotis vocalizations and the efficacy of *Anabat* as a diagnostic tool for these two species in the field. A subset of voucher calls for each species can be found in Appendix A of this report.

G. Road Surveys

Road surveys were conducted in the reptile and amphibian inventory, and were used on several occasions for raptors as well. Road surveys are also an important component of Christmas Bird Counts and fall migration counts. The small number of roads in the monument limited the overall usage of this technique, however it did lead to the documentation of several important species of herpetofauna that were not found with other techniques. Road surveys for reptiles and amphibians were conducted in the evening and night hours during warm weather and lasted for several hours or until temperatures had cooled below the point at which reptile and amphibian activity could be expected.

H. Raptor Nest Searches

Raptor nest searches were conducted between April and June, 2002. Brief visits were made to many nests in 2003 to determine nest status. Stuart Janes (unpublished) conducted a survey of raptor populations for the monument in 1978 and many of the nests identified in that report were relocated in 2002. Raptor nests were located by observing cliffs and suitable trees, observing adult raptors carrying food, relocating known historic nests, or relocating nests identified in the Janes report. Several owl nests were located by daytime follow-ups of positive responses encountered during nighttime owl surveys. UTM locations were obtained for all nests and the nesting status was noted for active nests.

I. Raptor Pellet Inspection

Pellets cast from nesting great horned and long eared owls were collected from 4 nests and some of the pellets from 3 of the nests have been analyzed. Small mammal remains were identified and the results are included in this report. Identifications were made with the aid of mammals keys published in Verts and Carraway (1998) and a Bausch and Lomb 0.7x-3x dissecting microscope. These results contribute to the small mammal inventory as well as provide additional information on the diet of these two species of owls in the monument.

J. Bird Playback Surveys

A CD player with a broadcasting device was used to call for owls, rails, and yellow-breasted chats (*Icteria virens*) in the monument. Surveys were conducted between April and June, 2002. These bird species are very secretive and can often be missed if playback techniques are not used. The songs and calls of the target species were obtained from the Peterson Guide to Western Bird Songs (Cornell Laboratory of Ornithology and Interactive Audio 1992). Owl playback surveys were conducted by hiking or driving along a route, such as a road or canyon, broadcasting calls, and listening for responses. Chat surveys were conducted by broadcasting and listening for responses in dense willow thickets along the John Day River and Bridge Creek. It was not necessary to survey Pine Creek because chats there were abundant and conspicuous in 2002. Rails were surveyed in a similar manner to chats but targeted habitats consisted of dense cattail wetlands formed by beaver dams in Bridge Creek and Pine Creek, and the depressional wetland at the south end of the Sheep Rock Unit. Species, time, location, number of individuals, and habitat were recorded for each positive response to the playback.

K. Species Documentation Methods

Species encountered during the inventory were documented using photography, collection of voucher specimens, voucher *Anabat* call files, and field observation records. A full complement of reptile and amphibian photographs have been given to the monument for non-commercial use and serves as a voucher for each species encountered in the monument. The use of Museum Special snap traps resulted in the killing of some individuals of most species of small mammals. Specimens will be prepared and curated by the University of Washington Burke Museum of Natural and Cultural History. In addition to specimens and photographs, data sheets and field notes were kept on all inventory activities and species encountered. Photocopies have been made of all data sheets and field notes and will be permanently housed by the Northern Semi-Arid Network. Voucher calls for each bat species made during 2002 and 2003 are located in Appendix A in this document.

IV. Results

A. Birds

1. Historic Information

No comprehensive inventory or survey of birds has been done in the John Day Fossil Beds National Monument prior to the current I & M project. However, there are several sources of historic information that have provided reliable information on expected species and allow for some comparison between historic and present species composition. Most information on birds has been collected as individual observations noted on monument wildlife cards from past monument staff and visitors. Most of these observations are from the 1980's and early 1990's. Use of the observation cards has dropped off in recent years and the cards are useful only as historic rather than current species documentation. A general list of bird species was included in the botanical survey conducted for the monument by Berta Youtie in 1977 but no information is available on how the list was assembled (Youtie and Winward unpublished). The most useful historic document for birds in the monument is the report of the raptor survey conducted by Stewart Janes for the monument in 1978 (Janes unpublished). This report provides a reliable baseline for comparison of current raptor species presence and breeding activity. Many nests located during that study were relocated in 2002.

2. Expected and Confirmed Species

A total of 146 bird species are currently expected to occur in or adjacent to the monument during a part or all of the year. One-hundred fifty-five species were documented during the 2002-2003 inventory, including 2001-2003 Antone Christmas Bird Counts and 2000-2002 data provided by the Pine Creek Ranch. Thirteen confirmed species were not expected to occur in the monument. A total of 97% of the expected species have been documented. Table 1 shows the list of expected and unexpected species and their current status in the inventory.

3. Raptor Surveys

A total of 14 day and night raptor surveys were conducted during 2002. The result of these surveys and the results from incidental observations and inspection of historic locations in 2002 and 2003 yielded a total of 33 active and inactive raptor nests and a total of 8 breeding species; golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), great-horned owl (*Bubo virginianus*), long-eared owl (*Asio otus*), and screech owl (*Otus kennicottii*). Prairie falcons (*Falco mexicanus*) have bred in the monument historically and can be expected to do so periodically in the future (Janes unpublished). The peregrine falcon (*Falco peregrinus*) has not been known to breed in the John Day Valley recently, although it probably did historically (Adamus et al 2001). However, adult peregrine falcons have been spotted during the spring and summer near Cathedral Rock and the Johnny Creek Ranch in 2001, 2002, and again in 2003, suggesting that a nesting pair of this species may be established somewhere nearby. In 2003, an injured adult male peregrine falcon was collected at the Johnny Creek Ranch and sent to a rehabilitation facility at the Portland Audubon Society. Future searches for nesting peregrines in the Cathedral Rock-Johnny Creek area are strongly encouraged. Figures 4-7 show the location of all known active and inactive raptor nests. Table 2 shows the location of raptor nests and table 3 shows the 2002-2003 status for each nest.

4. Point Counts

A total of 102 point counts were conducted between April 23 and June 11, 2002 at 104 individual stations. Seventy-eight species of birds were documented in or adjacent to the monument during these point counts. Forty point counts in 5 routes were conducted in the Sheep Rock Unit, 36 counts in 4 routes were conducted in the Painted Hills Unit, and 26 counts in 5 routes were conducted in the Clarno Unit. Table 4 shows the location of point count routes from 2002 and figures 8-10 show the location of those routes and stations. Tables 5-7 show the point count results for each route. The western meadowlark (*Sturnella neglecta*) was the single most abundant species in the monument during point counts, representing 11% of all count observations. The western meadowlark, red-winged blackbird (*Aeglaius phoeniceus*), brewer's blackbird (*Euphagus cyanocephalus*), and the violet-green swallow (*Tachycineta thalassina*) were the most abundant species in each of the units of the monument, representing 34% of all count observations. It is important to note, however, that these species are conspicuous and highly social and the relative abundances determined from these counts are subject to bias. The effect of habitat on species composition and abundance is also pronounced and is easily seen in tables 5-7, which shows in detail the species composition and abundances in each route.

5. Owl Pellet Results

Pellets were collected from 1 great-horned owl nests in the Clarno Unit and 2 long-eared owl nests in the Painted Hills Unit. Results are presented in table 8. The species composition generally represents the composition of small mammals captured during the inventory. However, the number of microtine voles is much greater than capture results, suggesting either that these owls may be preferentially selecting voles or that our capture methods under-represented voles. One note of interest is the tentative identification of long-tailed voles (*Microtus longicaudus*) present in the diet of long-eared owls in the Painted Hills Unit. This species should be more abundant than capture results indicate.

6. Birds Discussion

The 2002-2003 bird inventory confirmed many species that had no historic documentation in the monument. Several of these, the white-faced ibis (*Plegadis chihi*), least sandpiper (*Calidris minutilla*), long-billed dowitcher (*Limnodromus scolopaceus*), and the Caspian tern (*Sterna caspia*) were migratory species that are only occasional visitors to the monument. Two others, the Virginia rail (*Rallus limicola*) and the Sora (*Porzana carolina*) are secretive denizens of dense wetland habitats and have probably been present but undetected in the monument. One, the northern mockingbird (*Mimus polyglottos*), was an unexpected species that has been exhibiting a rapid northward range expansion in recent years (Adamus et al. 2001). The confirmation of a breeding pair in the Clarno Unit in 2002 represents the northernmost breeding record in Oregon to date (Adamus et al. 2001). This species may become more common in the monument.

The first monument record of the peregrine falcon was established in 2002. One adult was observed foraging along the cliffs of Cathedral Rock in the Sheep Rock Unit in early August. Monument staff reported a pair of peregrine falcons in 2001 off the monument along Johnny Creek, near Cathedral Rock (Matt Smith, JODA, personal communication). In May of 2003, an injured adult male peregrine falcon was found at the Johnny Creek Ranch. It seems probable that a breeding pair has been present in the area. The discovery of breeding peregrines in the John Day valley would be exciting, as this species remains largely absent from the entire John Day Valley area, despite showing strong recovery elsewhere in Oregon (Adamus et al. 2001).

A number of species were observed in fewer numbers than expected in the monument, despite the presence of suitable habitat. The mountain quail (*Oreortyx pictus*), tree swallow (*Tachycineta bicolor*), yellow-breasted chat, Brewer's sparrow (*Spizella breweri*), and vesper sparrow (*Pooecetes gramineus*) are the most notable and effort should be made to increase knowledge of these species in the monument. Two other species, the willow flycatcher (*Empidonax trailii*) and green-tailed towhee (*Pipilo chlorurus*) were not observed in the monument and the presence of suitable habitat makes their absence conspicuous as well. The willow flycatcher has declined throughout much of its range and particular attention should be given to any sightings of this bird in the monument.

B. Mammals

1. Historic Information

As with other vertebrates in the monument, no comprehensive mammal inventory has been conducted prior to the current I & M project. A variety of historic sources do contain reliable information on mammal species present in or near the monument and these were useful in the development of an expected species list. One species, the mink (*Mustela vison*), was confirmed for the current I & M project from recent historic information (Matt Smith, JODA, personal communication). Wildlife observation cards completed by monument staff and visitors during the 1980's and 90's contained most of the historic information. Information on species with federal or state conservation status was made available from the Oregon Natural Heritage Program. The raptor pellet analysis in the 1978 Janes report for the monument also contributed important information on small mammal species, although it is impossible to know whether mammal prey were taken on or off the monument. Some historic information is also contained in the report on coyotes (*Canis latrans*) and mule deer (*Odocoileus hemionus*) conducted for the monument in 1979 by Brad Griffith of Oregon State University.

2. Expected and Confirmed Species

A total of 50 species of mammals are expected to occur in or adjacent to the monument. Forty-six species were documented in 2002 and 2003, one of which, the bighorn sheep (*Ovis Canadensis*), was not expected to occur in the park. Ninety percent of the expected species have been documented, including the mink, which was not documented in 2002 or 2003, but several reliable sightings have been made in the Sheep Rock Unit in recent years (Matt Smith, JODA, personal communication). Table 9 shows the list of expected and possible species and their current status in the monument inventory.

3. Mammal Trapping

Trapping effort for small and medium sized non-volant mammals totaled 3239 trap nights. Sherman live traps and Museum Special snap traps placed in transects represent 90% of these trap nights, but Havahart wire cage traps and pitfall traps were also used and are included in this total. Total capture of non-volant mammals was 404 individuals. Deer mice (*Peromyscus maniculatus*) were the most abundant mammals captured, representing 64% of all captures. The Ord's kangaroo rat (*Dipodymys ordii*) was the second most abundant mammal captured, representing 7% of all captures. Table 10 shows the location and trapping effort information and table 11 shows the results from the mammal trapping effort. When considered separately, the 2003 pitfall trapping results showed a different picture of small mammal abundance and species composition. The 2003 pitfall trap effort totaled 352 trap nights. Total capture of non-volant mammals was 24 individuals. The western harvest mouse (*Reithrodontomys megalotis*) and the great basin pocket mouse (*Perognathus parvus*) represented 24% and 25%, respectively, of captures, and the deer mouse only represented 14% of captures. 2002 results from Sherman and snap traps placed in the same areas as the 2003 pitfalls with equal effort

(362 trap nights) showed deer mice to represent 80% of captures. Figures 11-14 show the location of transects, pitfall arrays, and miscellaneous capture locations.

4. Bat Mist Netting

Because we received funding to conduct a separate bat telemetry project in the monument in 2003, a large amount of information was collected on bats in the monument during 2002 and 2003. All 14 species expected to occur along the John Day River were captured during 71 mist net sessions from May 30 to September 9, 2002 and June 16 to October 3, 2003. Total mist net effort during 2002 and 2003 included 8825 meters of net employed over 329 hours. Additional miscellaneous captures were made on several occasions using a hand-held "H" net. The capture locations with the highest species richness were the reach of Pine Creek adjacent to the Palisades in the Clarno Unit and the Rock Creek impoundment in the Sheep Rock Unit. The most abundant species captured was the Yuma myotis, representing well over 25% of total captures. Relative abundance of this species may be as high as 35%, but this species is easily confused with the little brown myotis and these two species were not separately identified during early summer capture sessions in 2002. Voucher calls were recorded with the *Anabat* system and tissue samples were collected that enabled positive identification of these two species after July 2002. Other species with notable abundances were the pallid bat (*Antrozous pallidus*), western small-footed myotis (*Myotis ciliolabrum*) and the western pipistrelle (*Pipistrellus hesperus*), with 15%, 8%, and 8% of total captures, respectively. Table 12 shows the location of mist net and "H" net capture sessions and table 13 summarizes the results of those capture sessions. Figures 15-18 show bat capture locations in the monument. It is important to note that capture site topography and variability in species foraging behavior greatly bias species richness and abundance calculated from mist net results and care should be taken when interpreting these results.

5. Anabat Results

Eighteen *Anabat* recording sessions were conducted from July 15 to September 9, 2002. Twelve sessions were conducted during mist net sessions and provided recordings of free-flying bats in addition to voucher recordings of captured bats. Six sessions were conducted independent of mist net sessions and provided additional data on free-flying bats in and adjacent to the monument. Additional *Anabat* recordings were made of hand released bats during mist net sessions but did not involve the recording of free-flying bats and are not counted as individual sessions. In 2003, *Anabat* recording was conducted sporadically during mist net sessions primarily to collect additional voucher calls from hand released bats but logistical considerations precluded our ability to continue to conduct distinct *Anabat* recording sessions. All 14 species of bats documented in the monument were recorded using the *Anabat* system, and voucher recordings were made of each species captured and released by hand. Voucher recordings of a hand-released spotted bat were obtained in 2003. Bat capture results were low in the Painted Hills Unit and several species that were never captured there were documented using the *Anabat* system. These species were the western pipistrelle, big brown bat (*Eptesicus fuscus*), little brown bat, and pallid bat. Table 14 provides the location and total number of

species confirmed for each *Anabat* recording session. Appendix A contains the voucher calls for all 14 species of bats captured and recorded in the monument during 2002 and 2003.

6. Mammals Discussion

The 2002-2003 mammal inventory began with little historic information and therefore was conducted on a relatively "blank slate". Several interesting discoveries were made during the inventory and 16 species of mammals were confirmed that had no historic documentation in the monument prior to 2002. The rediscovery of the spotted bat in the monument was certainly the most exciting event for the mammal inventory. Spotted bats are virtually unknown in Oregon. Only two published records exist for the species in the state prior to the 2002 inventory. The first record was established from a captured individual in the Alvord Desert in the southeastern corner of the state in the late 1970's and the second record was established in 1984 from a dead individual found in a cliff overlooking the John Day River at Clarno, several miles west of the Clarno Unit of the monument (Barss and Forbes 1984, Verts and Carraway 1998). The species has been listed as threatened by the state of Nevada and a species of concern in Idaho (NDOW 2003, ICDC 2004). Currently, the Oregon Department of Fish and Wildlife have no status designation for the species but the Oregon Natural Heritage Program has listed the species on a list of species at risk of extirpation or peripheral species (Oregon Natural Heritage Program 2001). The multiple observations of the species in the monument during 2002 and 2003 are the first indications that a sustained breeding population may exist in the state. Publication of the spotted bat information gathered during the inventory and 2003 telemetry project in the monument is currently being sought in the Western North American Naturalist.

In addition to the spotted bat discovery, the overall success of bat work conducted during the inventory is noteworthy. All 14 species of bats expected to occur in the monument were confirmed, of which 9 species were new documentations for the park: California myotis (*Myotis californicus*), little brown myotis, long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), Yuma myotis, long-legged myotis (*Myotis volans*), silver-haired bat (*Lasionycteris noctivagans*), big brown bat, and the spotted bat. Several locations in the monument proved to have a combination of bat use and topography that made for very productive mist netting. In particular, the lower reach of Rock Creek and the reach of Pine Creek adjacent to the Palisades were highly productive and would make excellent long-term monitoring sites. Although the monument residency status of some bat species remains unclear, the monument appears to host breeding populations of most species, including at least 5 of the 8 state and federal listed species of concern. The John Day Fossil Beds National Monument and the surrounding area is clearly an area of high bat species diversity and an effort should be made to establish long-term bat monitoring and conservation strategies. Also noteworthy is the large number of hoary bats (*Lasiurus cinereus*) captured in the monument. This species is migratory and believed to be sexually segregated during migration (Verts and Carraway 1998). Very few records (approximately 5) of female hoary bats exist for Oregon but in 2003 six females were captured along the John Day River and Pine Creek (Ormsbee and Risdal unpublished).

The John Day valley may serve as a north-south migratory corridor for this species. The telemetry research led to the discovery of several important roosting areas in the monument. The Palisades, in the Clarno Unit, Goose Rock, in the Sheep Rock Unit, and the ignimbrite rimrock overlooking Bridge Creek in the Painted Hills Unit were repeatedly used by large maternity colonies of pallid bats and were used by several other species as well. Details of the results of this project will be included in a separate report available from the John Day Fossil Beds National Monument and the Northern Semi-Arid Network. The John Day Fossil Beds is clearly an important area for bats. Because so many bats are species of concern, this group should be considered in future monitoring programs.

Shrews (family Soricidae) were another group of interest for the 2002-2003 mammal inventory. No species of this family were previously documented but as many as four species may occur in or near the monument. The inventory confirmed the presence of only one species, the vagrant shrew (*Sorex vagrans*), which is a relatively common species. Both the Preble's shrew (*Sorex preblei*), which is listed as a federal species of concern, and the Merriam's shrew (*Sorex merriami*), are not well understood in Oregon and represented by relatively few museum specimens. These species and the water shrew (*Sorex palustris*) may occur in the monument but generally occur in naturally low abundance and are difficult to detect through trapping (Kirkland et al. 1997, Verts and Carraway 1998).

Several species of both confirmed and unconfirmed murid rodents (family Muridae) deserve mention. Two unique species of mice, the pinyon mouse (*Peromyscus truei*) and the canyon mouse (*Peromyscus crinitus*), were confirmed in the monument for the first time during the 2002-2003 inventory. Both of these species are at the very northern limits of their established range and the discovery of the pinyon mouse in the Clarno Unit effectively extended its previously known range northward approximately 40 miles and represents the first record of the species in Wheeler County. Two species of voles, the long-tailed vole and the sagebrush vole (*Lemmiscus curtatus*) were conspicuously absent in the monument during the inventory. These species are relatively common and easily detected throughout their range. Their absence, as well as the virtual absence of vole captures in upland habitats where vole runways were present, suggests that 2002-2003 may have been a low point in the microtine population cycle. Data from small mammal studies elsewhere in eastern Oregon, if available, would provide further insight into this speculation.

C. Amphibians and Reptiles

1. Historic Information

Past herpetological work in the area of the John Day Fossil Beds National Monument has been minimal. The earliest work published on the area is The Amphibia and Reptilia of Oregon, published in 1939 by Kenneth Gordon. Jeffrey H. Black and Robert M. Storm published another work, Notes on the Herpetology of Grant County, Oregon, in 1970. A two-week long inventory was conducted in the general vicinity of the monument in late August and early September of 1984 for the Oregon Department of Fish and Wildlife by a coauthor of this report (St. John 1984). Otherwise, the amphibians and reptiles of the John Day country have received scant attention.

2. Expected and Confirmed Species

A total of 19 species of herpetofauna are expected to occur in and adjacent to the monument, including 5 species of amphibians and 14 species of reptiles. The 2002-2003 inventory confirmed the presence of 89% of the expected species, including 5 species of amphibians (100%) and 12 species of reptiles (85%). Table 15 shows the list of expected species and unexpected species and their status in the monument. Table 16 shows the location and date of selected amphibian and reptile species of interest observed in the monument in 2002 and 2003. Figures 19-23 show the location of amphibian and reptile species of interest encountered in the monument.

Three unexpected but possible species are noteworthy, as well. The desert horned lizard (*Phrynosoma platyrhinos*), was reported from "the John Day country" by Gordon (1939). Unfortunately, no details as to the date, location, or the collector's name were provided. Two other species that have been recorded nearby but have not been verified as occurring within the monument are the Columbia Spotted Frog (*Rana luteiventris*) and the Sagebrush Lizard (*Sceloporus graciosus*).

3. Amphibian and Reptile Discussion

Of the 19 species of amphibians and reptiles expected to occur in the John Day Fossil Beds National Monument, all but two were found during this inventory, the pigmy short-horned lizard (*Phrynosoma douglasi*) and the rubber boa (*Charina bottae*). Some worthwhile data was successfully accumulated for species of particular interest. Eighteen individuals observed in the south Foree Area, ranging from large adults to juveniles, represent the western whiptail in the monument. Voucher specimens have been needed from this isolated population to be available for taxonomic work in morphological comparisons and molecular genetics studies. This was accomplished in 2002 by capturing two individuals for vouchering. One was kept to become a preserved specimen, while a toe was clipped from the other animal before it was released. These specimens were placed in the Oregon State University collection. However, despite repeated searches in seemingly suitable habitat in other sections of the Sheep Rock Unit

(Blue Basin and the ash beds below Sheep Rock), the Clarno Unit, and the Painted Hills Unit, no other populations of western whiptails were located. Figure 26 shows the locations of western whiptails in the Foree portion of the Sheep Rock Unit.

These ash bed habitats of the Foree subunit, in which the western whiptail has been found, and ash beds in other areas of the monument, support a vegetation type resembling that of the Great Basin. These areas were also searched for the desert horned lizard without success. The vague mention for this species in "the John Day Country" (Gordon 1939) may have been based on erroneous data. Nevertheless, reliable reports exist of sightings for this species during the 1950s in the Deschutes River drainage near Madras, not far to the west of the John Day country (Gary Clowers, personal communication). Continued alertness for the desert horned lizard's occurrence in the monument may be warranted.

Many shrubby areas throughout all three units were investigated for sagebrush lizards without finding any of these small, fast-moving reptiles. Historically, before fire suppression and cattle grazing, bunchgrass habitat was much more dominant in the John Day drainage than it is now. Possibly, this species of lizard never ranged into the area due to a scarcity of its required sagebrush-bitterbrush plant communities.

Although in 1984 the Columbia spotted frog was found east of the monument in the Murderers Creek drainage, no definite past records of this species within the monument are known to exist. During the present inventory, this species was not found in likely aquatic habitats in the monument. This amphibian usually inhabits somewhat higher, forested elevations where summer water temperatures are cooler. Spotted frog populations have declined in many places over their range in western North America (Christopher Pearl and Marc Hayes, personal communication, Corkran and Thoms 1996). Speculation on causes of this decline have centered largely on deteriorating water conditions caused by overgrazing of cattle along riparian areas and agricultural runoff (Christopher Pearl and Marc Hayes, personal communication). In eastern Oregon, many small tributary streams are reduced to a trickle or dry up completely during the warm months and the main rivers flow at lower summer levels (with resultant higher water temperatures) than those of the early part of the last century. During historic times when river drainages were healthier, Columbia spotted frogs may have occurred at lower elevations in eastern Oregon and may have been present in the John Day Fossil Beds National Monument. The invasion of exotic bullfrogs that prey upon smaller native frogs is undoubtedly another major contributing factor in the loss of spotted frogs in many places (Christopher Pearl and Marc Hayes, personal communication).

Despite the fact that during this inventory no new locality records were added for the pigmy short-horned lizard and the rubber boa in the monument, it should not be construed that they are rare or declining. Both of these reptiles are typically not encountered on a frequent basis anywhere in eastern Oregon. Of the other species of herpetofauna that were previously represented by few records, some new locality data was added for the southern alligator lizard (*Elgaria multicarinata*), striped whipsnake (*Masticophis taeniatus*), and night snake (*Hypsiglena torquata*).

The paucity of the western toad's (*Bufo boreas*) representation in this inventory is worrisome. Several individuals were found on roads during the 1984 inventory. Only two were encountered using this methodology during the present project, despite miles and miles of nighttime road hunting in seemingly good weather conditions for amphibian activity. No larvae of this species were seen in aquatic areas. The western toad appears to be on a decline in many portions of its overall range and on-going monitoring of its status in the monument might be advisable.

Another concern for herpetofauna in the monument is the presence of the exotic annual cheatgrass. Great Basin desert lizards, such as the western whiptail, require open, sandy spaces between shrubs for hunting prey and running to escape predators. Similarly, the pigmy short-horned lizard requires open, loose-soiled areas in its typical sagebrush-bunchgrass habitat. Cheatgrass is increasingly carpeting open areas of ground and impedes the movements of these lizards. As mentioned earlier, the western whiptail was not found at any other locations in the monument besides the southern portion of the Foree Area in the Sheep Rock Unit. Although color photos of this species were shown to many monument employees, along with anyone else encountered who had spent considerable time outdoors in the area, no one had ever seen it elsewhere in the monument. Undoubtedly, the western whiptail does not exist in the Clarno Unit. The Oregon Museum of Science and Industry has operated the Hancock Field Station there since the 1950s, and with scores of energetic youngsters hiking the area looking for wildlife, it has never been observed in all that time. This relatively large, diurnally active reptile would have been discovered by now if it occurs in the Clarno Unit. Likewise, the staff at the Painted Hills Unit have never seen it there. Before the invasion of cheatgrass, whiptails may have occurred at more locations in the upper John Day River drainage. However, given present knowledge of the species in the monument, it must be assumed that the Foree population of western whiptails is uniquely isolated. Therefore, in the monument's on-going attempts at limiting the growth of cheatgrass, it would probably be a good management practice to concentrate these efforts in this lizard's extremely limited habitat. Otherwise, the future survival of this seemingly very small population of western whiptails may be at risk due to habitat loss.

V. Species Accounts

This section gives a brief description of each expected or unexpected but possible species for the John Day Fossil Beds National Monument. The species are organized by class (i.e. Class Aves or Birds). Species names are followed by a series of codes based on those in use by the National Park Service NPSpecies database. The first code indicates park status, followed by an indication of the monument units in which the species has been observed, species abundance, and species residency. The information presented here is primarily based on the 2002-2003 inventory results and is not comprehensive and should be interpreted carefully. Abundance estimates were not based on any quantitative population estimate. A key to the codes used after the species names is located on the following page.

Park Status

- **(P) Present:**
  Species occurrence in park is documented and assumed to be extant.
- **(H) Historic:**
  Species historical occurrence in the park is documented, but recent investigations indicate that the species is now probably absent.
- **(PP) Probably Present:**
  Park is within species range and contains appropriate habitat. Documented occurrences of the species in the adjoining region of the park give reason to suspect that it probably occurs within the park. The degree of probability may vary within this category, including species that range from common to rare.
- **(E) Encroaching**
  The species is not documented in the park, but is documented as being adjacent to the park and has potential to occur in the park.
- **(U) Unexpected:**
  Included for the park based on weak (unconfirmed) record or no evidence, giving minimal indication of the species occurrence in the park.
- **(FR) False Report:**
  Species previously reported to occur within the park, but current evidence indicates that the report was based on a misidentification, a taxonomic concept no longer accepted, or some other similar problem of interpretation.

Monument Unit

- **(SR) Sheep Rock**
- **(PH) Painted Hills**
- **(CL) Clarno**

Species Abundance

- **(A) Abundant:**
  Animals: May be seen daily, in suitable habitat and season, and counted in relatively large numbers.
  Plants: Large number of individuals; wide ecological amplitude or occurring in habitats covering a large portion of the park.
- **(C) Common:**
  Animals: May be seen daily, in suitable habitat and season, but not in large numbers.
  Plants: Large numbers of individuals predictably occurring in commonly encountered habitats but not those covering a large portion of the park.
- **(U) Uncommon:**
  Animals: Likely to be seen monthly in appropriate season/habitat. May be locally common.
  Plants: Few to moderate numbers of individuals; occurring either sporadically in commonly encountered habitats or in uncommon habitats.
- **(R) Rare:**
  Animals: Present, but usually seen only a few times each year.
  Plants: Few individuals, usually restricted to small areas of rare habitat.
- **(O) Occasional:**
  Occurs in the park at least once every few years, but not necessarily every year. Applicable to animals only.
- **(UNK) Unknown:**
  Abundance unknown.
-

Residency

- **(B) Breeder**:
  Population reproduces in the park.
- **(R) Resident:**
  A significant population is maintained in the park for more than two months each year, but it is not known to breed there.
- **(M) Migratory:**
  Migratory species that occurs in park approximately two months or less each year and does not breed there.
- **(V) Vagrant:**
  Park is outside of the species usual range.
- **(UNK) Unknown:**
  Residency status in park is unknown.

A. Birds

Western Grebe *Aechmophorus occidentalis* Present PH O M

This species has observed at the Painted Hills Reservoir in May 2003.

Pied-billed Grebe *Podilymbus podiceps* Present SR O M

This species is a winter visitor to the John Day River in the Sheep Rock Unit. It has been confirmed during the 2001 Antone Christmas Bird Count. The species also occurs in the Painted Hills Reservoir but has not been recorded there during the inventory.

American White Pelican *Pelecanus erythrorhynchos* Unexpected

Double-crested Cormorant *Phalacrocorax auritus* Present SR O M

One individual was seen along the John Day River near Cathedral Rock.

American Bittern *Botaurus lentiginosus* Unexpected

Great Blue Heron *Ardea herodias* Present SR,PH,CL C B?

This species occurs regularly but in low numbers along the John Day River, Pine Creek, and Bridge Creek.

Great Egret *Ardea alba* Present SR O M

The great egret occurs sporadically along the John Day River during spring and fall migration. One individual was seen in the Sheep Rock Unit during the spring of 2002.

Snowy Egret *Egretta thula* Unexpected

Black-crowned Night Heron *Nycticorax nycticorax* Unexpected

White-faced Ibis *Plegadis chihi* Present SR O M

A small flock of 8 individuals was observed flying up the John Day River in the Sheep Rock Unit in the April, 2002.

Turkey Vulture *Cathartes aura* Present SR,PH,CL C R

The turkey vulture occurs regularly but in low numbers throughout the monument.

Greater White-fronted Goose *Anser albifrons* Unexpected

Canada Goose *Branta Canadensis* Present SR,PH,CL A B

The Canada goose is common along the John Day River in the Sheep Rock Unit and in the reservoir adjacent to the Painted Hills Unit. The species also occurs sporadically in the Clarno Unit.

Snow Goose *Chen caerulescens* Unexpected

Trumpeter Swan *Cygnus buccinator* Present PH R M

This species occurs sporadically during fall and spring migration in the monument. Approximately 25 adult and juvenile swans were observed in the reservoir adjacent to the Painted Hills Unit for several days during November 2002.

Tundra Swan *Cygnus columbianus* Present R M

Tundra swans occur sporadically during fall and spring migration in the monument. 1 juvenile was observed along the John Day River in the Sheep Rock Unit during the fall of 2002.

Wood Duck *Aix sponsa* Present CL O M

One pair was seen in Pine Creek adjacent to the Clarno Unit for several days during the spring of 2002.

Gadwall *Anas strepera* Present PH R M

Gadwall occur sporadically during fall and spring migration in the monument. Several individuals were observed in the reservoir adjacent to the Painted Hills Unit during the spring of 2002.

American Widgeon *Anas Americana* Present PH R M

This species occurs sporadically during fall and spring migration in the monument. Multiple flocks were observed in the reservoir adjacent to the Painted Hills Unit during the fall of 2002.

Mallard *Anas platyrhynchos* Present SR,PH,CL A B

The mallard is a common resident in the monument along the John Day River and its tributaries.

Blue-winged Teal *Anas discors* Present CL O M

The blue-winged teal is rare in the monument. One individual was observed along Pine Creek adjacent to the Clarno Unit during late spring of 2002.

Cinnamon Teal *Anas cyanoptera* Present SR,PH,CL U B

This species occurs regularly but in low numbers along the John Day River and its tributaries in the monument.

Northern Shoveler *Anas clypeata* Present R M

Northern Pintail *Anas acuta* Probably Present

Green-winged Teal *Anas crecca* Present PH,CL U B

Green-winged teal occur regularly in the monument. Summer populations are small but large flocks develop during the winter. The species has been observed along Bridge Creek and the reservoir adjacent to the Painted Hills Unit and along Pine Creek adjacent to the Clarno Unit.

Canvasback *Aythya valisineria* Present PH O M

One individual was observed at the Painted Hills Reservoir in May 2003.

Redhead *Aythya Americana* Probably Present

Ring-necked Duck *Aythya collaris* Present PH R M

The ring-necked duck occurs sporadically in the monument during migration.

Lesser Scaup *Aythya affinis* Present PH R M

This species is seen occasionally in the monument during migration and possibly may occur during the winter. One individual was seen in the reservoir adjacent to the Painted Hills Unit during the fall of 2002.

Bufflehead *Bucephala albeola* Present R M

A small flock of buffleheads were seen in May 2003 at the Painted Hills reservoir.

Common Goldeneye *Bucephala clangula* Present PH R M

This species is a rare migrant in the monument and may occur sporadically throughout the winter months. One individual was seen in the Painted Hills reservoir during the early winter of 2002.

Hooded Merganser *Lophodytes cucullatus* Unexpected

Common Merganser *Mergus merganser* Present SR,PH U B

This species occurs regularly but in low numbers along the John Day River in the Sheep Rock Unit and has also been observed during the winter in the Painted Hills reservoir

Ruddy Duck *Oxyura jamaicensis* Present PH R UNK

The ruddy duck occurs regularly but in low numbers in the reservoir adjacent to the Painted Hills Unit. Several individuals were observed there during the spring of 2002. The residency of this species is unknown and may breed in the Painted Hills reservoir.

Osprey *Pandion haliaetus* Present SR U R

Osprey are regularly seen in low numbers along the John Day River in the Sheep Rock Unit. The species was absent during the summer breeding period in 2002 and may only spend post-breeding and migration periods in the monument.

Bald Eagle *Haliaetus albicilla* Present SR U R

The bald eagle occurs regularly but in low numbers along the John Day River in the Sheep Rock Unit. This species is unlikely to breed in the monument. This species continues to have "threatened" status under the federal Endangered Species Act.

Northern Harrier *Circus cyaneus* Present SR,PH,CL U B

Northern Harriers occur regularly but in low numbers throughout the monument.

Sharp-shinned Hawk *Accipiter striatus* Present SR,PH?,CL U UNK

This species occurs regularly but in low numbers throughout the monument.

Cooper's Hawk *Accipiter cooperii* Present SR,PH?,CL? U UNK

The Cooper's hawk occurs regularly but in low numbers throughout the monument. The species probably occurs in all three units of the monuments. Historic observations have been made in the Clarno Unit, but the species was only observed in the Sheep Rock Unit during the inventory.

Northern Goshawk *Accipiter gentiles* Present SR,PH?,CL? R R

Northern goshawks occur in the monument during the winter months and during spring and fall migration. Breeding populations probably occur in higher elevation forested areas near the monument but this species will not breed in the open juniper woodland habitat found on the monument. The species probably occurs in all three units. Historic observations have been made in the Clarno Unit, but the species was only seen in the Sheep Rock Unit during the inventory. This species has a federal and state status as a "species of concern".

Red-tailed Hawk *Buteo jamaicensis* Present SR,PH,CL C B

This species occurs regularly but in low numbers throughout the monument.

Red-shouldered Hawk ***Buteo lineatus*** Unexpected

Rough-legged Hawk *Buteo lagopus* Probably Present

The rough-legged hawk is a common winter resident in eastern Oregon but has not been recorded in or adjacent to the monument. The species may prefer less rugged and broken terrain than what is found in the monument.

Golden Eagle *Aquila chrysaetos* Present SR,PH,CL U B

The golden eagle occurs regularly but in low numbers in the monument. Two alternate nests are located near one another in the Sheep Rock Unit. One of the nests was active in 2002 and the other was noted by Janes as active in the mid-1970's.

American Kestrel *Falco sparverius* Present SR,PH,CL C B

This species is common throughout the monument, especially along roadsides.

Merlin *Falco columbarius* Present CL O M

Merlins are found occasionally in the monument. Individuals have been seen along Pine Creek adjacent to the Clarno Unit of the monument on several occasions during 2002.

Peregrine Falcon *Falco peregrinus* Present SR R UNK

One adult peregrine falcon was observed in the Sheep Rock Unit near Cathedral Rock in early August of 2002. Falcons were seen near the monument along Johnny Creek in 2001 and 2003. While the species is experiencing a strong recovery in Oregon, the John Day River drainage and much of southeastern Oregon remains largely unoccupied by breeding peregrine falcons. This species was recently delisted as a federal endangered species but continues to have state status as "endangered".

Prairie Falcon *Falco mexicanus* Present SR,PH,CL U B

Prairie falcons are common residents in the vicinity of the monument but are found in relatively low numbers. Historic breeding records in the monument exist for the species but no breeding activity was observed during 2002 and no conspicuous "whitewashed" ledges or "scrapes" were located. The one nest site noted by Janes in the mid-1970's could not be relocated in 2002.

Chukar *Alectoris chukar* Present SR,PH,CL A B

The Chukar is a ubiquitous resident in the upland habitats of the monument.

Gray Partridge *Perdix perdix* Unexpected

Ring-necked Pheasant *Phasianus colchicus* Present PH,CL U B

This species occurs locally along Bridge Creek and in the agricultural lands adjacent to the Painted Hills Unit, as well as along the lower reaches of Pine Creek adjacent to the Clarno Unit.

Wild Turkey *Meleagris gallopavo* Present SR,CL? R UNK

This species is increasing in numbers in the John Day valley. One individual was reported crossing Highway 19 near the monument in 2003 and a tail feather was found along Highway 19 in the Foree area. The species is also present on the Pine Creek Ranch adjacent to the Clarno Unit but has not been confirmed there yet.

Mountain Quail *Oreortyx pictus* Present SR?,PH R B

Mountain quail are found in the canyons of the John Day region. 1 individual was seen in the Painted Hills Unit during the summer of 2002. Numerous individuals have been counted near the Sheep Rock Unit during Christmas Bird Counts but none in or adjacent to the monument. This species has federal status as a "species of concern".

California Quail *Callipepla californica* Present SR,PH,CL A B

This species occurs throughout the monument, especially near water and dense riparian vegetation.

Virginia Rail *Rallus limicola* Present SR,PH,CL U B

Virginia rails occur regularly in the wetlands of the monument but are secretive and rarely detected.

Sora *Porzana carolina* Present SR R B

The only records of this species in the monument were the two pairs observed in the depressional wetlands south of Picture Gorge in the Sheep Rock Unit during 2002.

American Coot *Fulica americana* Present PH U B

Adult and juvenile coots were observed regularly in the reservoir adjacent to the Painted Hills Unit in 2002.

Sandhill Crane *Grus canadensis* Present SR O M

The sandhill crane is a rare visitor to the monument during migration. This species is normally heard or seen flying overhead and rarely uses the monument as a migration stopover. This species has status as a state "species of concern".

Killdeer *Charadrius vociferous* Present SR,PH,CL C B

This species occurs throughout the monument, especially in stony or open areas adjacent to open water.

Black-necked Stilt ***Himantopus mexicanus*** Unexpected

American Avocet ***Recurvirostra americana*** Unexpected

Greater Yellowlegs *Tringa melanoleuca* Unexpected

Spotted Sandpiper *Actitis macularia* Present SR,PH,CL? U B

This species occurs in the monument along the John Day River, Rock Creek, Bridge Creek, and the Painted Hills reservoir. The species may occur along Pine Creek adjacent to the Clarno Unit.

Western Sandpiper ***Calidris mauri*** Present PH R M

This species has been observed at the Painted Hills reservoir.

Least Sandpiper *Calidris minutilla* Present PH R M

Several individuals of this species were observed at the reservoir adjacent to the Painted Hills Unit during 1 day in the spring of 2002.

Long-billed Dowitcher *Limnodromus scolopaceus* Present PH R M

Several long-billed dowitchers were also observed at the reservoir adjacent to the Painted Hills Unit during 1 day in the spring of 2002.

Common Snipe *Gallinago gallinago* Present SR,PH,CL U B

Several common snipes were seen and "winnowing" males were heard along the riparian areas of the monument in 2002.

Wilson's Phalarope *Phalaropus tricolor* Present PH R M

Several individuals of this species were observed at the reservoir adjacent to the Painted Hills Unit during 1 day in the spring of 2002.

Ring-billed Gull *Larus delawarensis* Present PH R M

This species occurs in and near the Painted Hills reservoir.

California Gull *Larus californicus* Present PH R M

This species occurs in and near the Painted Hills reservoir.

Herring Gull *Larus argentatus* Unexpected

Forster's Tern ***Sterna forsteri*** Present PH O M

This species was seen flying over the Painted Hills reservoir in 2003.

Caspian Tern *Sterna caspia* Present PH O M

Four Caspian terns were observed flying over the Painted Hills Unit in May, 2002.

Rock Dove *Columba livia* Present SR,PH,CL A B

This species occurs throughout the monument, especially in cliffs.

Mourning Dove *Zenaida macroura* Present SR,PH,CL C B

This species occurs throughout the monument.

Barn Owl *Tyto alba* Present SR,PH,CL R B

This nocturnal and secretive owl is found in low numbers in the monument. One molted primary feather was found beneath a juniper tree in the Foree portion of the Sheep Rock Unit in 2002. Two nests were located in the Painted Hills Unit in 2003. A nesting pair was found at the Clarno Cliffs 3 miles west of the Clarno Unit. The species likely nests in the Palisades, as several individuals have been heard calling at night during mist netting along Pine Creek in 2002 and 2003.

Flammulated Owl ***Otus flammeolus*** Unexpected

Western Screech Owl *Otus kennicottii* Present SR,PH,CL R B

This species occurs throughout the wooded areas of the monument. Breeding pairs were located in the Sheep Rock and Painted Hills Units in 2002. The species was not detected in the Clarno Unit in 2002 but has occurred in that unit historically.

Great-horned Owl *Bubo virginianus* Present SR,PH,CL U B

The great-horned owl occurs throughout the monument. Breeding pairs were located in all three units in 2002 and 2003.

Northern Pygmy Owl *Glaucidium gnoma* Unexpected

Barred Owl *Strix varia* Present CL O V

One individual was observed near Pine Creek adjacent to the Clarno Unit in the fall of 2002.

Long-eared Owl *Asio otus* Present SR?,PH,CL? R B

Breeding pairs of this species were observed in the Painted Hills Unit in 2002. The species has occurred historically in the Clarno Unit but fires during the 1990's removed juniper woodland habitat that may discourage the species from inhabiting the unit. Suitable habitat exists in the Sheep Rock Unit but the species was not detected there in 2002.

Short-eared Owl *Asio flammeus* Probably Present

Common Nighthawk *Chordeiles minor* Present SR,PH,CL A B

This species is common throughout the monument, although it is a relatively late migrant in the spring and departs early in the fall.

Common Poorwill *Phalaenoptilus nuttallii* Present SR,PH?,CL R B

This nocturnal species was detected during several nights in the Sheep Rock and Clarno Units but was not detected in the Painted Hills Unit in 2002, although it is likely to occur there.

Vaux's Swift *Chaetura vauxi* Present SR,PH,CL U UNK

This species occurs in low numbers throughout the monument. The residency status of this species is unclear but it may breed in the monument.

White-throated Swift *Aeronautes saxatalis* Present SR,CL A B

This aerial species occurs in cliff areas in the monument, especially Cathedral Rock and Goose Rock in the Sheep Rock Unit and the Palisades in the Clarno Unit. The species was absent from the Painted Hills Unit in 2002 where there is an absence of suitable habitat.

Black-chinned Hummingbird *Archilochus alexandri* Present SR,PH?,CL R B

This species was observed at a feeder in the Foree portion of the Sheep Rock Unit in 2002 and at a feeder near the Clarno Unit in 2003. The species probably occurs throughout the monument but is difficult to observe. Juveniles of this species were observed feeding in August of 2002 and the species is presumed to breed in the monument.

Calliope Hummingbird *Stellula calliope* Present CL R UNK

This species has been observed on several occasions at a feeder and other locations on the Pine Creek Ranch adjacent to the Clarno Unit.

Rufous Hummingbird *Selasphorous rufus* Present SR,PH?,CL? R B

This species was observed at a feeder at Foree and in several other locations in the Sheep Rock Unit in 2002. The species probably occurs throughout the monument but is difficult to observe.

Belted Kingfisher *Ceryle alcyon* Present SR,PH,CL? C B

The belted kingfisher is common in the monument along the John Day River and its tributaries.

Lewis's Woodpecker *Melanerpes lewis* Present PH,CL R M

This species occurs sporadically along Pine Creek and a small flock was observed feeding in a burned juniper woodland in the Painted Hills Unit in 2003.

Williamson's Sapsucker *Sphyapicus thyroideus* Unexpected

Red-naped Sapsucker *Sphyrapicus nuchalis* Present CL O M

One individual was observed along Pine Creek adjacent to the Clarno Unit during the fall of 2001.

Downy Woodpecker *Picoides pubescens* Present SR R UNK

The downy woodpecker occurs sporadically in the monument. The species has been observed during the 2001 Christmas Bird Count.

Hairy Woodpecker *Picoides villosus* Present SR U UNK

This species occurs in low numbers in the monument. Several individuals were observed in the juniper woodlands near hole-in-the-ground on the eastern boundary of the Sheep Rock Unit in 2002. The species was also observed during the 2001 Christmas Bird Count.

White-headed Woodpecker *Picoides albolarvatus* Unexpected

Northern Flicker *Colaptes auratus* Present SR,PH,CL C B

The "red-shafted" form of this species is common throughout the monument, especially in wooded areas.

Olive-sided Flycatcher *Contopus cooperi* Unexpected

Western Wood Pewee *Contopus sordidulus* Present SR,PH,CL C B

The western wood pewee occurs in riparian and wooded areas of the monument.

Willow Flycatcher *Empidonax traillii* Probably Present

The willow flycatcher has state and federal status as a "species of concern". Sightings of this species in or near the monument in the future should be carefully noted and shared with appropriate institutions.

Least Flycatcher *Empidonax minimus* Present SR O M

One individual was seen on two occasions at the depressional wetland in the southern boundary of the Sheep Rock Unit in the spring of 2002.

Dusky Flycatcher *Empidonax oberholseri* Present SR,PH,CL C B

Dusky flycatchers occur in juniper woodlands of the monument.

Gray Flycatcher *Empidonax wrightii* Probably Present

Say's Phoebe *Sayornis saya* Present SR,PH,CL A B

The say's phoebe is a ubiquitous summer resident in the monument and is a relatively early migrant in the spring

Ash-throated Flycatcher *Myiarchus cinerascens* Present SR,PH,CL C B

The ash-throated flycatcher occurs throughout the monument, especially in juniper woodlands.

Eastern Kingbird *Tyrannus tyrannus* Present SR?,CL UNK B

This species has been infrequently recorded along Pine Creek and a breeding pair was observed north of the Foree area at the confluence of the North Fork with the main form of the John Day River.

Western Kingbird *Tyrannus verticalis* Present SR,PH,CL A B

This species occurs throughout the monument.

Loggerhead Shrike *Lanius ludovicianus* Present SR,PH,CL C B

The loggerhead shrike is found throughout the open shrub-steppe habitats in the monument, where it frequently builds nests in big sagebrush or juniper trees. This species has status as a state "species of concern".

Northern Shrike *Lanius excubitor* Present SR,PH,CL? U R

This winter resident occurs regularly but in low numbers in the monument.

Cassin's Vireo *Vireo casinii* Unexpected

Warbling Vireo *Vireo gilvus* Present CL,PH R UNK

This species occurs in low numbers in the monument. While the species may breed in the monument, only a few individuals were observed during the spring.

Gray Jay *Perisoreus canadensis* Unexpected

Stellar's Jay *Cyanocitta stelleri* Unexpected

Western Scrub Jay *Aphelocoma californica* Present SR,CL O UNK

This species appears to be expanding its range eastward in the state. The species has been seen at a feeder in the Foree area in September, 2002 and a pair was observed repeatedly along Pine Creek across from the Palisades in the Clarno Unit in 2003.

Clark's Nutcracker *Nucifraga columbiana* Present SR R UNK

Several individuals were observed near hole-in-the-ground on the eastern boundary of the monument during the summer of 2002.

Black-billed Magpie *Pica pica* Present SR,PH,CL C B

The black-billed magpie occurs throughout the monument but in lower numbers than expected.

American Crow *Corvus brachyrhyncos* Present SR,PH,CL C B

Crows are found throughout the monument.

Common Raven *Corvus corax* Present SR,PH,CL C B

This species occurs throughout the monument.

Horned Lark *Eremophila alpestris* Present PH R UNK

Horned larks occur sporadically in the monument during the winter months. A flock was observed in the Painted Hills on one occasion in the fall of 2002.

Tree Swallow *Tachycineta bicolor* Present SR O B

This species was observed in the Foree portion of the Sheep Rock Unit in 2002, where one breeding pair used a nesting box on the wall of the vehicle shed. The species is conspicuously absent from other riparian areas in the monument.

Violet-green Swallow *Tachycineta thalassina* Present SR,PH,CL A B

Violet-green swallows are abundant during the spring and summer along riparian areas of the monument.

Northern Rough-winged Swallow *Stelgidopteryx serripennis* Present SR,PH,CL C B

The northern rough-winged swallow occurs along the John Day and its tributaries. The species was especially common along Bridge Creek in the Painted Hills Unit in 2002. The species was uncommon in the Clarno Unit.

Bank Swallow *Riparia riparia* Present SR,PH U B

Two colonies of this species were observed in 2002. One was located in a road cut along Highway 19 adjacent to the Sheep Rock Unit between Blue Basin and the Foree area. A second colony was located along Bridge Creek in the Painted Hills Unit below the entrance road culvert. This species has status as a state "species of concern".

Cliff Swallow *Petrochelidon pyrrhonata* Present SR,PH,CL A B

This species occurs throughout the monument, especially near cliffs.

Barn Swallow *Hirundo rustica* Present SR U B

Barn swallows were less common than expected in the monument. Several individuals were observed during point counts along the John Day River near Cant Ranch during 2002. Nests were found in the Cant Ranch barn in 2002.

Black-capped Chickadee *Poecile atricapillus* Present SR R R

This species occurs sporadically in the monument. Several individuals have been observed during recent Christmas Bird Counts.

Mountain Chickadee *Poecile gambeli* Present SR R R

The mountain chickadee also occurs sporadically in the monument. Several individuals have been observed during recent Christmas Bird Counts.

Bushtit *Psaltriparus flaviceps* Present SR,PH?,CL C B

The bushtit is found throughout the monument in low numbers during the summer. Larger flocks are common in the winter.

Red-breasted Nuthatch *Sitta canadensis* Probably Present

White-breasted Nuthatch ***Sitta carolinensis*** Unexpected

Pygmy Nuthatch ***Sitta pygmaea*** Unexpected

Brown Creeper ***Certhia americana*** Unexpected

Rock Wren *Salpinctes obsoletus* Present SR,PH,CL C B

This species occurs throughout the monument especially in rocky areas.

Canyon Wren *Catherpes mexicanus* Present SR,PH,CL C B

The canyon wren occurs throughout the monument, especially in rocky areas and canyons.

House Wren *Troglodytes aedon* Probably Present

Winter Wren *Troglodytes troglodytes* Present SR R R

The winter wren occurs sporadically in the monument. Several individuals have been observed during Christmas Bird Counts.

Marsh Wren *Cistothorus palustris* Present SR R UNK

This species has been found along the John Day River and the depressional wetland south of Picture Gorge in the Sheep Rock Unit. Several individuals were observed during the summer of 2002. One individual was observed during the 2001 Christmas Bird Count. The species may breed in the monument.

American Dipper *Cinclus mexicanus* Present SR, R R

The American dipper occurs in low numbers along Rock Creek and the John Day River. The species may breed in the monument.

Golden-crowned Kinglet *Regulus satrapa* Present SR R R

The golden-crowned kinglet occurs sporadically in the monument during the winter. The species was observed during the 2001 Christmas Bird Count.

Ruby-crowned Kinglet *Regulus calendula* Present SR,CL U B

Ruby-crowned kinglets occur in low numbers throughout the monument.

Western Bluebird *Sialia mexicana* Present SR,PH.CL C B

The western bluebird is a common resident throughout the monument but the species occurs in greater numbers during the winter. Summer breeding activity was concentrated in upland burn areas with juniper snags during 2002.

Mountain Bluebird *Sialia currucoides* Present SR,PH,CL C UNK

Mountain bluebirds are found throughout the monument, especially during winter months. Summer presence in the monument is sporadic but the species may breed there.

Townsend's Solitaire *Myadestes townsendi* Present SR,PH,CL A R

This species occurs throughout the monument during the winter months.

Swainson's Thrush *Catharus ustulatus* Unexpected

Hermit Thrush *Catharus guttatus* Present SR R R

This species has been observed along Rock Creek in the Sheep Rock Unit during the 2002 and 2001 Antone Christmas Bird Count.

American Robin *Turdus migratorius* Present SR,PH,CL A B

This ubiquitous species is abundant throughout the monument.

Varied Thrush *Ixoreus naevius* Unexpected

Gray Catbird *Dumetella carolinensis* Present CL UNK V

One individual was observed along Pine Creek adjacent to the Clarno Unit during the summer of 2002.

Northern Mockingbird *Mimus polyglottus* Present CL UNK B

One breeding pair was observed in Indian Canyon during the summer of 2002. This species is expanding its range northward and may become more abundant in the monument in the future.

Sage Thrasher *Oreoscoptes montanus* Present PH O M

This species occurs sporadically in the monument. One individual was observed in the Painted Hills Unit during fall migration in 2002.

European Starling *Sturnus vulgaris* Present SR,PH,CL C B

This species occurs throughout the monument, especially in cliffs.

Cedar Waxwing *Bombycilla cedrorum* Present SR,PH?,CL R UNK

Cedar waxwings occur sporadically and in relatively low numbers throughout the monument. Small flocks were observed in the Clarno Unit during the summer of 2002 and flocks were observed during the 2000 Christmas Bird Count.

Orange-crowned Warbler *Vermivora celata* Present SR,PH,CL? U B

The orange-crowned warbler occurs in low numbers along riparian areas in the monument.

Nashville Warbler *Vermivora ruficapilla* Present PH,CL O M

One male Nashville Warbler was observed in Indian Canyon, in the Clarno Unit, during 2002 and another individual was observed near the Painted Hills visitor center in May 2003.

Yellow Warbler *Dendroica petechia* Present SR,PH,CL C B

The yellow warbler is common in the willow thickets and cottonwood stands along the John Day River and its tributaries.

Yellow-rumped Warbler *Dendroica coronata* Present SR,PH,CL U B

This species occurs throughout the monument in low numbers.

Townsend's Warbler *Dendroica townsendii* Unexpected

Black-throated Gray Warbler *Dendroica nigrescens* Present SR,PH,CL C B

The black-throated gray warbler inhabits the juniper woodlands of the monument.

Macgillivray's Warbler *Oporornis tolmiei* Present SR,CL R M

One male individual was observed at the depressional wetlands south of Picture Gorge in the Sheep Rock Unit and 1 male was heard singing along Pine Creek in the Clarno Unit in 2002.

Common Yellowthroat *Geothlypis trichas* Unexpected

Wilson's Warbler *Wilsonia pusilla* Present SR,PH U M

Several individuals were observed along riparian areas in the Sheep Rock and Painted Hills Units in 2002 and 2003.

Yellow-breasted Chat *Icteria virens* Present SR,CL U B

This species is common along Pine Creek, in the Clarno Unit, but rare or absent from other suitable riparian habitats in the other units of the monument. One male was observed at the depressional wetlands south of Picture Gorge in the Sheep Rock Unit in 2002. This individual was only seen once and may have been a migrant.

Western Tanager *Piranga ludoviciana* Present SR,CL U UNK

This species occurs in low numbers in the monument.

Green-tailed Towhee *Pipilo chlorurus* Probably Present

The green-tailed towhee was conspicuously absent from the monument in 2002. One historic observation of this species was reported in 1986 in the Foree portion of the Sheep Rock Unit.

Spotted Towhee *Pipilo maculates* Present SR,PH,CL C B

This common species occurs throughout the monument, especially in brushy habitat.

Chipping Sparrow *Spizella passerina* Present SR,PH,CL C B

The chipping sparrow occurs throughout the monument.

Brewer's Sparrow *Spizella breweri* Present SR,CL R B

Individuals were observed singing along the entrance to Hancock Field Station in the Clarno Unit and below the Foree picnic area in the Sheep Rock Unit in 2002.

Vesper Sparrow *Poocetes gramineus* Present SR R B

The vesper sparrow was encountered less than expected in 2002. One individual was observed on the ridge west of Middle Mountain between Deer Gulch and Blue Basin in the Sheep Rock Unit.

Lark Sparrow *Chondestes grammacus* Present SR,PH,CL C B

This species is common throughout the uplands of the monument.

Sage Sparrow ***Amphispiza belli*** Unexpected

Black-throated Sparrow ***Amphispiza bilineata*** Unexpected

Savannah Sparrow *Passerculus sandwichensis* Present CL R UNK

One individual was encountered along Pine Creek adjacent to the Clarno Unit in 2002.

Fox Sparrow *Passerella iliaca* Present PH O M

One individual was observed at the Painted Hills Unit in May 2003.

Song Sparrow *Melospiza melodia* Present SR,PH,CL A B

The song sparrow is abundant throughout the monument, especially in riparian thickets.

Lincoln's Sparrow *Melospiza lincolnii* Present SR,PH,CL? U M

This species occurs in the monument during spring and fall migration, especially in riparian thickets.

Golden-crowned Sparrow *Zonotrichia atricapilla* Present SR,PH?,CL U UNK

Golden-crowned sparrows occur in the monument in low numbers during winter and migratory periods.

White-crowned Sparrow *Zonotrichia leucophrys* Present SR,PH,CL C R

This species is common throughout the monument during the fall, winter, and spring.

Dark-eyed Junco *Junco hyemalis* Present SR,PH,CL C R

This species occurs throughout the monument during fall, winter, and spring but is largely absent during the summer breeding period.

Lapland Longspur *Calcarius lapponicus* Present CL O M

The Lapland longspur is a rare migrant and winter visitor in the monument. Several individuals were observed along Pine Creek adjacent to the Clarno Unit of the monument in the fall of 2002.

Black-headed Grosbeak *Pheuticus melanocephalus* Present SR,PH?,CL? U B

The black-headed grosbeak occurs in low numbers along riparian areas of the monument. The species was not encountered in the Painted Hills and Clarno Units in 2002 but is likely to occur there. The species may breed in the monument.

Lazuli Bunting *Passerina amoena* Present SR,PH?,CL? U B

This species occurs in low numbers along riparian areas of the monument. The species was not encountered in the Painted Hills and Clarno Units in 2002 but is likely to occur there.

Red-winged Blackbird *Agelaius phoeniceus* Present SR,PH,CL A B

The red-winged blackbird is abundant along the riparian areas of the monument, especially along the John Day River, Bridge Creek, and Pine Creek.

Tricolored Blackbird ***Agelaius tricolor*** Present PH,CL O B

This colonial species arrives in early spring at the Clarno beaver ponds along Pine Creek every few years. A colony was also present at the Painted Hills reservoir in 2003. Central Oregon is at the northern extent of the species range.

Western Meadowlark *Sturnella neglecta* Present SR,PH,CL A B

This ubiquitous species occurs throughout the monument, especially in the uplands.

Yellow-headed Blackbird *Xanthocephalus xanthocephalus* Present SR U B

A small breeding colony was observed at the depressional wetland in the Sheep Rock Unit during 2002.

Brewer's Blackbird *Euphagus cyanocephalus* Present SR,PH,CL A B

This species is abundant along riparian areas in the monument.

Brown-headed Cowbird *Molothrus ater* Present SR,PH,CL C B

The brown-headed cowbird occurs throughout the monument, especially near riparian areas.

Bullock's Oriole *Icterus bullockii* Present SR,PH,CL C B

This species is common in the monument.

Gray-crowned Rosy Finch *Leucosticte tephrocotis* Unexpected

Cassin's Finch *Carpodacus cassinii* Present SR UNK UNK

The Cassin's finch occurs sporadically in the monument. Large flocks were observed in the Sheep Rock Unit during the spring of 2002. The species is unlikely to breed in the monument but its residency status is unknown.

House Finch *Carpodacus mexicanus* Present SR,PH,CL C B

This species occurs throughout the monument.

Red Crossbill *Loxia curvirostra* Unexpected

Pine Siskin *Carduelis pinus* Present SR UNK UNK

This species occurs sporadically in the monument. Large flocks were observed in the Sheep Rock Unit during the spring of 2002.

Lesser Goldfinch *Carduelis psaltrina* Present SR,PH?,CL R UNK

One male of this species was observed during the spring of 2002 in the Clarno Unit. Numerous individuals have been observed during recent Christmas Bird Counts in the Sheep Rock Unit.

American Goldfinch *Carduelis tristis* Present SR,PH,CL A B

This species is abundant throughout the monument.

Evening Grosbeak *Coccothraustes vespertinus* Probably Present

House Sparrow *Passer domesticus* Present CL UNK UNK

This species, surprisingly, is largely absent from the monument. Several individuals were observed at a feeder adjacent to the Clarno Unit during the fall of 2002.

B. MAMMALS

Water Shrew *Sorex palustris* Unexpected

This species may occur along Rock Creek and upper Pine Creek, but is generally expected to occur at higher elevations than what is available in the monument. This species is particularly associated with fast-flowing mountain streams (Verts and Carraway 1998).

Merriam's Shrew *Sorex merriami* Probably Present

This species occurs in naturally low abundances and can often take years of consistent trapping before the species is detected (Kirkland et al 1997). The species is associated with upland sagebrush habitats.

Preble's Shrew *Sorex preblei* Unexpected

This species, like the Merriam's shrew, is rarely captured and its habitat association is not well established. In Oregon, the species appears to be associated with higher elevation sagebrush communities (*Artemisia rigida, A. vaseyana*) and aspen (*Populus tremuloides*).

Vagrant Shrew *Sorex vagrans* Present SR,PH,CL? U B

This species was captured in pitfall and snap traps along riparian areas. The species is likely to occur along Pine Creek adjacent to the Clarno Unit but was not detected during the inventory.

Coast Mole *Scapanus orarius* Present SR,PH?,CL? UNK UNK

No specimen of this species has been obtained from the monument but trapping results related to monument maintenance (Ken Hyde, personal communication) and the presence of obvious mole sign in the agricultural fields of the Sheep Rock Unit provide sufficient evidence that this species is present in the monument. This is the only mole species with a distribution that overlaps with the monument.

California Myotis *Myotis californicus* Present SR?,PH,CL U UNK

This species was captured along Bridge Creek in the Painted Hills Unit and Pine Creek adjacent to the Clarno Unit. The species is likely to occur in the Sheep Rock Unit but was not detected during the inventory. One non-lactating female was captured suggesting the possibility of breeding populations in the monument.

Western Small-footed Myotis *Myotis ciliolabrum* Present SR,PH?,CL C B

The western small-footed myotis was captured along the John Day River near Goose Rock, in the Sheep Rock Unit, and at an upland cave near Blue Basin and along Pine Creek adjacent to the Clarno Unit. Telemetry results on this species led to the discovery of many roost sites in and near the Clarno Unit, including the Palisades cliffs. This species has federal and state status as a "species of concern".

Long-eared Myotis *Myotis evotis* Present SR?,PH?,CL R UNK

One juvenile male was captured along Pine Creek adjacent to the Clarno Unit in 2002. No calls recorded with *Anabat* were positively identified to have come from this species, although several possible calls were recorded. The species was not detected in 2003 and it is probably occurs only sporadically in the monument. This species has federal and state status as a "species of concern".

Little Brown Myotis *Myotis lucifugus* Present SR,PH,CL C B

This species was captured along Rock Creek and the John Day River in the Sheep Rock Unit, Bridge Creek, and Pine Creek. Two maternity roosts were located in buildings in the Sheep Rock Unit.

Fringed Myotis *Myotis thysanodes* Present SR R UNK

One juvenile male was captured along Rock Creek in the Sheep Rock Unit in 2002. Another juvenile was encountered along the John Day River at Goose Rock in 2003. Two individuals flying over field #2 along the John Day River near the mouth of Rock Creek were positively identified to this species based on *Anabat* recordings. The species probably occurs only sporadically in the monument. This species has federal and state status as a "species of concern".

Long-legged Myotis *Myotis volans* Present SR,PH,CL U UNK

Several adult males of this species were captured along Bridge Creek in the Painted Hills Unit and Pine Creek adjacent to the Clarno Unit. One individual was captured along the John Day River at Cathedral Rock in 2003. This species probably only occurs sporadically in the monument. This species has federal and state status as a "species of concern".

Yuma Myotis *Myotis yumanensis* Present SR,PH,CL A B

This was the most common bat species captured and recorded in the monument. The species was found along the John Day River and its tributaries. One large maternity colony is located under the Clarno Bridge, several miles west of the Clarno Unit. Other maternity colonies are likely to be located on or near all three units. This species has federal status as a "species of concern".

Hoary Bat *Lasiurus cinereus* Present SR,PH,CL U M

Several adult males were captured along Rock Creek, Pine Creek, Bridge Creek, and the reservoir adjacent to the Painted Hills Unit. In 2003 females were captured along Pine Creek and at the confluence of the north fork at Kimberly, Oregon.

Silver-haired Bat *Lasionycteris noctivagans* Present SR,PH,CL U UNK

Both sexes of this species were captured along Rock Creek, Bridge Creek, and Pine Creek. Radio telemetry results were inconclusive but suggest that the species is migratory through the monument area. This species has federal status as a "species of concern" and state status as "threatened".

Western Pipistrelle *Pipistrellus hesperus* Present SR,PH,CL A B

Western pipistrelles were captured and recorded along the John Day River in the Sheep Rock Unit and Pine Creek adjacent to the Clarno Unit. The species was also recorded along Bridge Creek in the Painted Hills Unit. Lactating females and newly volant young were among those individuals captured.

Big Brown Bat *Eptesicus fuscus* Present SR,PH,CL C UNK

Both sexes of this species were captured along Rock Creek in the Sheep Rock Unit and Pine Creek adjacent to the Clarno Unit. The species was recorded in the Painted Hills Unit. The species likely rears young in the area but this has not been confirmed.

Spotted Bat *Euderma maculatum* Present SR,PH,CL U UNK

The spotted bat was recorded along Pine Creek adjacent to the Clarno Unit as well as at the cliffs along the John Day River at Clarno, several miles from the Clarno Unit. Two individuals were captured there as well. One individual was captured in an upland cave near Blue Basin in the Sheep Rock Unit. The species' audible calls were heard over Hancock Field Station in the Clarno Unit, along Bridge Creek in the Painted Hills Unit, and at Cathedral Rock in the Sheep Rock Unit. This species was the most exciting and unusual confirmation during the 2002-2003 inventory, as it is little known in Oregon and has been referred to as North America's rarest mammal (Verts and Carraway 1998).

Townsend's Big-eared Bat *Corynrhinus townsendii* Present SR,PH?,CL U B

A colony of females, males, and was documented in 2002 and 2003 at an upland cave near Blue Basin in the Sheep Rock Unit. One additional lactating female was captured along Pine Creek adjacent to the Clarno Unit. This species has federal and state status as a "species of concern".

Pallid Bat *Antrozous pallidus* Present SR,PH,CL A B

This species was captured along the John Day River and Pine Creek, and was recorded along Bridge Creek in the Painted Hills Unit. The species was notably absent along Rock Creek. Large maternity colonies of this species were located in the Palisades cliffs, at Goose Rock, and at the rimrock overlooking Bridge Creek in 2003. This species has state status as a "species of concern".

Mountain Cottontail *Sylvilagus nuttallii* Present SR,PH,CL C B

The mountain cottontail occurs throughout the monument.

Black-tailed Jackrabbit *Lepus californicus* Present SR,PH,CL U B

This species occurs throughout the monument, but in relatively low numbers. The species did appear to be particularly abundant in the vicinity of the fossil leaf trail and the nearby service road in the western portion of the Painted Hills Unit.

Least Chipmunk *Tamias minimus* Unexpected

This species probably occurs at higher elevations than what is available in the monument. This species was observed crossing Highway 26 near Antone in 2002 and has been recorded in the upper Pine Creek drainage on the Pine Creek Ranch (Mark Berry, personal observation). However, any sightings of a diurnal chipmunk on or near the monument should be noted. Care should be taken to distinguish a chipmunk with cheek stripes from the golden-mantled ground squirrel, which does occur in the monument and does not have cheek stripes.

Yellow-bellied Marmot *Marmota flaviventris* Present SR R B

The yellow-bellied marmot appears to occur only in two distinct locations along highway 19. The first is located across from Goose Rock and the second is located in an old barnyard on the east side of the highway between Cathedral Rock and Foree.

Belding's Ground Squirrel *Spermophilus beldingi* Present SR,PH,CL A B

This species is abundant in and around agricultural fields and barnyards in and near the monument. The monument headquarters, Cant Ranch, is one area where the species is particularly abundant. Belding's ground squirrels are usually active above ground from early spring to early summer.

Merriam's Ground Squirrel *Spermophilus canus* Unexpected

This species may have occurred in the Clarno area in the past but it is now believed not to occur (possibly extirpated) on the Wheeler County side of the John Day River (Sherman and Yensen 2003). The species range does not overlap with the monument (Sherman and Yensen 2003).

Golden-mantled Ground Squirrel *Spermophilus lateralis* Present SR,CL U B

This species was observed in the ash beds of the Foree portion of the Sheep Rock Unit and the Palisades and park ranger kiosk in the Clarno Unit during the inventory.

Northern Pocket Gopher *Thomomys talpoides* Present SR,PH,CL C B

The northern pocket gopher occurs throughout the monument.

Great Basin Pocket Mouse *Perognathus parvus* Present SR,PH,CL A B

Based on capture results and owl pellet analysis, this species appears to be abundant in upland habitats throughout the monument.

Ord's Kangaroo Rat *Dipodomys ordii* Present PH,CL A B

This species occurs throughout the Painted Hills and Clarno Units but was conspicuously absent from the Sheep Rock Unit in 2002 capture results. The species is particularly associated with loose sandy soil and the bunch grasses Indian rice grass (*Oryzopsis hymenoides*) and sand dropseed (*Sporobolus cryptandrus*).

Beaver *Castor canadensis* Present SR,PH,CL C B

This species occurs along the John Day River and its tributaries.

Western Harvest Mouse *Reithrodontomys megalotis* Present SR,PH,CL C B

The western harvest mouse was captured throughout the monument in upland and riparian grassy habitats, including canary reed grass (*Phalaris arundinacea*) monocultures along the John Day River in the Sheep Rock Unit.

Canyon Mouse *Peromyscus crinitus* Present SR,PH U B

The canyon mouse was captured in talus fields, with which it is almost exclusively associated throughout its range.

Deer Mouse *Peromyscus maniculatus* Present SR,PH,CL A B

This ubiquitous species was the most abundant mammal in the inventory.

Pinyon Mouse *Peromyscus truei* Present SR,PH,CL C B

Pinyon mice were found primarily where large junipers and cliffs or rimrock coincided. Areas with particular abundance were the rocky wash behind the picnic area in the Foree portion of the Sheep Rock Unit and Indian Canyon in the Clarno Unit. One individual was found high on the north facing grassy slope overlooking Blue Basin near mountain

mahogany and cliffs. Several juveniles of this species were found in juniper woodlands away from rocky areas. A modest northward range extension was established with the discovery of the species in Indian Canyon. This also established the first record of the species for Wheeler County.

Northern Grasshopper Mouse *Onychomys leucogaster* Probably Present

This species occurs in naturally low abundances but is expected to occur in the monument, especially in sandy areas favored by kangaroo rats.

Bushy-tailed Woodrat *Neotoma cinerea* Present SR,PH,CL A B

This species occurs throughout the monument, particularly in cliffs and old buildings.

House Mouse *Mus musculus* Unexpected

This species may occur in the monument but is not expected. The more aggressive deer mouse often excludes this species, and the low density of human habitation in the area probably does not provide enough suitable habitat

Long-tailed Vole *Microtus longicaudus* Probably Present

This species was tentatively identified from owl pellet remains collected in the Painted Hills Unit. Differentiation of this species from the montane vole using skull morphology is challenging and is based on the degree of constriction in the posterior half of the incisive foramina. Confirmation of the pellet remains will be made when study skins of montane voles are prepared by the Burke Museum and specimens can be compared.

Montane Vole *Microtus montanus* Present SR,PH,CL C B

The montane vole occurs throughout the monument, especially near riparian areas. This species was captured less than expected and when considered with the absence of the long-tailed vole and sagebrush vole, suggests that 2002-2003 may have been a low point in the typical microtine population cycle. Few voles were captured in upland bunchgrass habitats where runways resembling those made by voles in other study areas were present.

Sagebrush Vole *Lemmiscus curtatus* Probably Present

This species is difficult to capture in Sherman live traps but should have been captured in snap traps and in pitfalls. The status of this species is uncertain.

Common Muskrat *Ondatra zibethicus* Present SR,PH,CL? U B

The muskrat occurs in the John Day River and Bridge Creek. The species was not encountered along Pine Creek.

Western Jumping Mouse *Zapus trinotatus* Unexpected

Porcupine *Erethizon dorsatum* Present SR,PH,CL U B

This species occurs throughout the monument. Dens are frequently located at the base of cliffs and rimrock.

Coyote *Canis latrans* Present SR,PH,CL C B

This ubiquitous species occurs throughout the monument.

Red Fox *Vulpes vulpes* Unexpected

Common Raccoon *Procyon lotor* Present SR,PH,CL U B

Raccoons occur throughout the monument, especially near riparian areas.

Long-tailed Weasel *Mustela frenata* Probably Present

Ermine *Mustela erminea* Unexpected

Mink *Mustela vison* Present SR,PH?,CL? R B

Mink were not encountered during the 2002-2003 inventory but reliable sightings and road-killed specimens have been reported to the monument in recent years (Ken Hyde, JODA, personal communication, Matt Smith, JODA, personal communication). All reports have come from the John Day River.

American Badger *Taxidea taxus* Present SR,PH,CL R B

This species occurs throughout the monument, especially near Belding's ground squirrel colonies. Only fresh and abandoned badger excavations and sign were encountered during the 2002-2003 inventory but badgers are occasionally seen in the monument as well.

River Otter *Lutra canadensis* Present SR R UNK

This species was observed in the John Day River near Cathedral Rock in 2002.

Western Spotted Skunk *Spilogale gracilis* Present SR,PH?,CL? UNK B

This species was difficult to document during 2002-2003 trapping efforts. One individual was flushed out of an irrigation ditch along Highway 19 in the Sheep Rock Unit in 2003. Photographs were taken of this individual. Historic reports of the species

exist from the Hancock Field Station in the Clarno Unit. The species should occur throughout the monument but its status is uncertain.

Striped Skunk *Mephitis mephitis* Present SR,PH?,CL? UNK B

This species occurs throughout the monument, especially near riparian areas. One individual was captured at the depressional wetland south of Picture Gorge in the Sheep Rock Unit.

Cougar *Puma concolor* Present SR,PH,CL? R UNK

Cougars are secretive and hard to document but presumed to occur periodically in the monument. Several road kills were reported along highway 19 in the Sheep Rock Unit in 2002, although none were examined. One fresh elk kill site along Bridge Creek in the Painted Hills Unit was examined closely and attributed to a cougar in the late summer of 2002.

Bobcat *Lynx rufus* Present SR?,PH?,CL R UNK

Bobcats are secretive and hard to document but is likely to occur throughout the monument. One individual was observed along Pine Creek adjacent to the Clarno Unit in 2002.

Elk *Cervus elaphus* Present SR,PH,CL C B

This species occurs throughout the monument, but its abundance varies seasonally. Summer populations consist primarily of small cow/calf groups. Larger herds assemble in the winter and are frequently encountered along the John Day River and its tributaries.

Mule Deer *Odocoileus hemionus* Present SR,PH,CL C B

This species occurs throughout the monument.

Pronghorn *Antilocapra americana* Present SR?,PH,CL U UNK

Pronghorn occur in low numbers throughout the uplands of the monument. Two individuals were observed near the Painted Hills overlook and one individual was encountered near the “red hill” behind Hancock Field Station in the Clarno Unit in 2002.

Bighorn Sheep *Ovis canadensis* Present SR UNK UNK

Two males of this species were reported in the Sheep Rock Unit during the summer of 2002 by Oregon Department of Fish and Wildlife authorities (Ken Hyde, JODA, personal communication).

C. AMPHIBIANS

Long-toed Salamander *Ambystoma macrodactylum* Present SR,CL U B

This amphibian appears to be widespread in the monument wherever there are aquatic breeding sites. However, it is not frequently encountered because of its secretive habits. Several adults were found in the Sheep Rock Unit under damp rocks at the edges of the depressional wetland south of Picture Gorge, crossing Highway 26 in the eastern end of Picture Gorge during a nighttime rain shower, and under damp logs and boards around the Cant House Visitors Center. In the Clarno Unit, three adults were discovered in a damp spot under some cement blocks in the Hancock Field Station. It probably also occurs in the Painted Hills Unit. Currently, five subspecies are recognized. The eastern long-toed salamander (*A. m. columbianum*) is the variation occurring in the area of the monument.

Great Basin Spadefoot *Spea intermontana* Present SR,CL R B

This small toad is well adapted to arid conditions and is found throughout the area. It is infrequently encountered, however, because it leads a subterranean life when surface conditions are dry. During spring rains or summer thundershowers spadefoots can suddenly appear and adults will be seen hopping across roads, both during the day and night. Several adults were observed crossing roads in the Sheep Rock Unit in several locations, including near Blue Basin, the Foree Area, and just east of Picture Gorge. Breeding adults were heard calling after dark in two small stock ponds near the Hancock Field Station in the Clarno Unit. During a night-time survey of this site on May 30, 2002, one female was discovered hopping across the Hancock Canyon Trail, between the two ponds. It was probably leaving the water after depositing eggs. It should be noted that some authorities place this species in the genus *Scaphiopus*.

Western Toad *Bufo boreas* Present SR,PH,CL UNK B

Although several of these anurans were observed in the vicinity of the monument during the 1984 Oregon Department of Fish and Wildlife inventory (St. John 1984), it was not common anywhere in the monument during this current project. One large adult was found in a damp area under the edge of a building at the Hancock Field Station in the Clarno Unit. Another individual was found crossing the road at the Clarno picnic area. One individual was observed crossing burnt ranch road adjacent to the Painted Hills Unit. Otherwise, despite many hours of investigating riparian areas, road hunting on wet nights, and searching irrigated lawns and flowerbeds around the various buildings and picnic areas throughout the monument, no other western toads were located. Park Service staff living at the Foree House reported seeing a western toad by a water faucet below the front porch, and provided a photo of it as confirmation. Three subspecies have been described, with one, the boreal toad (*B. b. boreas*), occurring in Oregon.

Pacific Treefrog *Hyla regilla* Present SR,PH,CL C B

These diminutive amphibians were observed in nearly every aquatic habitat, seen hopping across roads during rainstorms, or heard calling throughout all three units of the monument. Particularly large breeding choruses of this species were noted in the depressional wetland at the south end of Picture Gorge, and along Rock Creek Ditch behind the Cant House Visitors Center. Other choruses were heard in the Painted Hills Unit along Bridge Creek, and in the Clarno Unit in a wetland along Highway 218. Some herpetologists place it in the genus *Pseudacris*.

Bullfrog *Rana catesbeiana* Present SR,CL C B

An introduced species native to the regions east of the Rocky Mountains, this large frog has invaded several sites in the Sheep Rock Unit. It was observed in the depressional wetland at east end of Picture Gorge, many sites along the John Day River, and in Rock Creek. According to Black and Storm (1970), the bullfrog was introduced into the John Day Valley in 1923 by Irving Hazeltine, a district game warden. It appears to have successfully established itself throughout the area, but is limited to lower elevations because it cannot tolerate cold mountain streams. Although bullfrogs are common along the John Day River a few miles west of the Clarno Unit, none are known from the Pine Creek drainage within the monument.

D. REPTILES

Western Fence Lizard *Sceloporus occidentalis* Present SR,PH,CL A B

This is the most commonly observed and widespread reptile within the monument. Favoring sunny places where there are plenty of rocks, stumps, logs, and wooden fence posts for basking sites, it was absent from view only during the most extremely hot days of summer or when temperatures dropped too low. Some localities for the Sheep Rock Unit are the east end of Picture Gorge, along Rock Creek, the slopes below Sheep Rock, Windy Point, Blue Basin, and the Foree Area. In the Clarno Unit it is found around the Hancock Field Station, Lee Canyon, the Palisades, throughout Indian Canyon, and in the Clarno Picnic Area. This lizard is equally ubiquitous in nearly every rocky place in the Painted Hills Unit, where it was common along the Carroll Rim Trail and in Brown Grotto. Six subspecies have been described, with the Great Basin fence lizard (*S. o. longipes*) usually considered to be the variation that occurs in the monument. However, most individuals examined showed some characteristics of the subspecies to the west, the northwestern fence lizard (*S. o. occidentalis*). Apparently, the John Day River drainage is within an area of intergradation for these two races.

Sagebrush Lizard *Sceloporus graciosus* Unexpected

Common Side-blotched Lizard *Uta stansburiana* Present SR U B

A resident of the most arid, exposed rocky areas in the monument, this small reptile was found in only two places. Both of these sites were in the Sheep Rock Unit, where it was frequently seen in the Foree Area, and a few individuals were observed in Blue Basin. Although the habitat seems superficially appropriate in the Painted Hills Unit and the Clarno Unit, no side-blotched lizards were found during extensive searches in both areas. In the past this species has been found a few miles west of the Clarno Unit at a lower elevation along the John Day River. The Oregon Department of Fish and Wildlife inventory (St. John 1984) indicates that this species was observed in the Painted Hills Unit, but upon reexamining field notes from that study, no mention of this observation was found and is now believed to have been an error.

Pigmy Short-horned Lizard *Phrynosoma douglasi* Probably Present

Although this species has been recorded in the monument in the past, none were found during the course of this project. Somewhat solitary and infrequently encountered, it usually inhabits loose-soiled, open areas where the shrub cover is widely spaced. However, ashbed soils at the immediate margins of barren “badlands” seem to be avoided. This uniquely Northwestern reptile is more cold tolerant than other species of horned lizards and often ranges to high elevations, occurring in open, sandy places in mountain pine forests at 6,000 feet or more. Likewise, the pigmy short-horned lizard often inhabits xeric areas with lithosol soils on high, exposed ridges and the level summits of buttes where there are sparse, stunted juniper woodlands. In these sites, it occupies a plant community of stiff sagebrush (*Artemisia rigida*), various bunchgrasses

(*Festuca* and *Agropyron spp*.), desert buckwheat (*Eriogonum spp*.), and hedgehog cactus (*Pediocactus simpsonii*). As an example, there is a population of these lizards in this type of habitat on the crest of Iron Mountain, just beyond the northern boundary of the Clarno Unit.

Staff members at the Hancock Field Station reported seeing this little lizard along the cliff tops of the nearby Palisades formation. They commented, though, that despite frequent hikes there with groups of students, sightings were very rare. A former monument staff biologist recalled observing this species in the Sheep Rock Unit (Cynthia Tait personal communication). During the early 1980s the species was seen on a slope behind the house along Highway 19, approximately a half mile south of the Cant House Visitors Center (C. Tait personal communication). Although there are no reports for this species at the Painted Hills Unit, it is probable that it occurs there as well.

Western Skink *Eumeces skiltonianus* Present SR,CL C B

Five of these brightly marked lizards were observed in the monument. A secretive species, most were found hiding under rocks in semi-arid to arid sagebrush-juniper associations. Skinks also range upward in elevation to high ridges and buttes in pine-fir forests. Localities for the Sheep Rock Unit are the Foree Picnic Area and at the Foree Spring. One individual was found on top of the rim near Windy Point in the Sheep Rock Unit. In the Clarno Unit this lizard was found at the Hancock Field Station and in Indian Canyon. Although none were observed in the Painted Hills Unit, this species probably occurs there. During the Oregon Department of Fish and Wildlife herpetological inventory, one individual was found under a rock at the western end of Picture Gorge in the Sheep Rock Unit (St. John 1984). Of the three subspecies currently recognized, the Skilton skink (*E. s. skiltonianus*) is the race native to the monument.

Western Whiptail *Cnemidophorus tigris* Present SR R B

Over the past thirty-five years, there have been only three or four reported observations made in the monument of this large, Great Basin Desert lizard. They were seen in the south portion of the Foree Area. This species is often difficult to find during extended periods of hot, dry weather, as it retreats underground to estivate. A total of 18 individuals were observed during the course of this inventory, all in the Foree vicinity.

Despite repeated visits to the site during early spring, none were in evidence until May 29, 2002, when one small adult was observed near the Foree spring. On the morning of June 13, two large adult males were observed sparring in an apparent territorial dispute in the middle of the paved "Story in Stone" trail, at the south end of the Foree Area and one was captured by hand. During evening of that day, a third adult appearing to be a gravid female was seen at the same site. Another smaller adult was seen there the following morning. No whiptails were found during the subsequent hot and dry weather until August 19, when one small adult was noosed along the edge of the "Story in Stone" trail, which was kept as a voucher specimen (placed in the Oregon State University preserved collection.) On August 23, a small adult was observed at the edge of the Foree parking

area by the "Story in Stone" interpretive sign. Another small adult was noosed along the trail on September 5 and was photographed, along with a toe clipping taken before the lizard was released (the toe clip was also placed in the OSU collection.) From September 19 to September 25, six more individuals were observed (all of them juveniles) along the "Story in Stone" trail and in the vicinity of the Foree spring. In June, 2003, three whiptails were found along the "Story in Stone" trail and on July 6, 2003, one adult whiptail was captured in a pitfall array placed in a dense stand of sagebrush along the Foree area entrance road.

The western whiptails along the "Story in Stone" trail were in proximity to a small, dry wash at the edge of barren ashbeds. The plant association in the habitat was big greasewood (*Sarcobatus vermiculatus*), shadscale (*Atriplex confertifolia*), and big aagebrush (*Artemisia tridentata*), with a few small, scattered western junipers (*Juniperus occidentalis*). The lizards observed near the Foree spring were inhabiting an area of larger, more dense junipers with a mixed sagebrush-bunchgrass undergrowth. In both sites there were numerous small to large open places with loose, sandy soil that was relatively free of exotic cheatgrass (*Bromus tectorum*). The western whiptail has been divided into several subspecies. Only one occurs in the northwest region, the Great Basin whiptail (*C. t. tigris*).

Southern Alligator Lizard *Elgaria multicarinata* Present SR,PH,CL U B

Although usually associated with the oak woodlands of western Oregon, this species ranges through the Columbia River Gorge into the sagebrush-juniper association of the Deschutes and John Day River drainages. Records for the Sheep Rock Unit of the John Day Fossil Beds National Monument constitute the easternmost known limits for its distribution in the Northwest region. Six southern alligator lizards were found during this project.

On May 29, 2002, an adult was found crossing Highway 19, 2.1 miles north of the Cant House Visitors Center (near Goose Rock). It was kept as a voucher specimen and placed in the Oregon State University preserved collection. Ken Hyde, resource manager at the monument, and several maintenance staff, found another individual from the Sheep Rock Unit on August 9, 2002. Captured at the fish passage diversion along Rock Creek, it was an exceptionally large male that was photographed next to a measuring tape, showing a total length (snout to tail tip) of approximately 16 inches.

One individual was observed in the Painted Hills Unit on June 3, 2002, as it crossed a gravel road near the fossil leaf trail area. Two alligator lizards were found in the Clarno picnic area in 2003. During August of 2002, a small adult specimen was captured at the Hancock Field Station by students and placed in a terrarium. According to the staff there, this lizard is routinely observed in the immediate vicinity of the science camp and at the nearby Palisades formation. During the 1984 survey, this species was observed in a rockslide on the south slope of Iron Mountain, just beyond the northern boundary of the monument (St. John 1984). Five subspecies have been described, the Oregon alligator lizard (*E. m. scincicauda*) being the variation that occurs in the monument.

Rubber Boa *Charina bottae* Probably Present

This small, secretive snake was not found during the inventory. Although it is sometimes encountered in the sagebrush-juniper association of lower, more arid sections of canyons, it is probably more common at higher elevations where there are pine-fir forests. The habitats usually preferred by this species are meadows and small openings among trees (often near a stream) where there are rotting logs, stumps, and rocks for cover. In the Clarno Unit, staff at the Hancock Field Station reported seeing this species only rarely in the immediate vicinity of this science camp, and at the Palisades formation. In the Sheep Rock Unit, suitable habitat for rubber boas is found in upper Waterspout Gulch, where a section of this canyon has pine trees and numerous decaying logs along the stream. Limited sites with pine trees that appear to be good rubber boa habitat are also found along the upper parts of the Overlook Trail in Blue Basin. Further searches of these areas in the future will probably locate this snake in these sites. The juniper woodlands of the Painted Hills Unit may also harbor the rubber boa.

Racer *Coluber constrictor* Present SR,PH,CL C B

One of the most common snakes native to the John Day Fossil Beds National Monument, this fast-moving animal was observed throughout the dry, brushy habitats of the area. Some localities for the Sheep Rock Unit are the Foree Area, Blue Basin, the slopes below Sheep Rock, the vicinity of the Cant House Visitors Center, and several sites on Highway 19 (just north of Picture Gorge, near Goose Rock, Cathedral Rock). Racers were found in the Clarno Unit in Indian Canyon, and dead on Highway 218 near the Hancock Field Station turnoff. This species was also observed in the Painted Hills Unit at the picnic area, crossing roads at several sites, and in juniper woodlands just south of the overlook at the main Painted Hills ashbeds. A number of subspecies are currently recognized over this reptile's broad range in North America. The variation occurring in Oregon is the western yellow-bellied racer (*C. c. mormon*).

Striped Whipsnake *Masticophis taeniatus* Present SR,PH,CL U B

This sleek reptilian predator is found throughout the dry, brushy habitats of the monument's three units, but is infrequently encountered. In the Sheep Rock Unit, a large adult individual was observed crossing the paved road that leads into the Foree Area on September 25, 2002. On August 29, 2002, Ken Hyde, staff resource manager at the monument, found an adult dead on Highway 19, 2.1 miles north of the Cant House Visitors Center (placed in the Oregon State University preserved collection). During the 1984 inventory, a subadult striped whipsnake was found dead on Highway 19 near the Sheep Rock overlook. In the Clarno Unit, an adult striped whipsnake was found near one of the cabins at the Hancock Field Station. Subsequently, Peter Chitwood, a staff member at the science camp, captured this snake on August 12, 2002, and photographs were obtained from this individual. Jenny DeLuca, the ranger for Painted Hills Unit, reported seeing a whipsnake there during the summer of 2002 in the Brown Grotto area,

but indicated that this was a rare sighting. Several subspecies are recognized, with the desert striped whipsnake (*M. t. taeniatus*) being the variation native to Oregon.

Gopher Snake *Pituophis catenifer* Present SR,PH,CL A B

This is the most commonly encountered snake in the monument. Road hunting during warm evenings and nights frequently produced as many as six to twelve gopher snakes. Individuals of this species were also frequently uncovered during searches under rocks and logs, particularly during the early spring, when reptiles were emerging from hibernation. Several subspecies have been described over this snake's wide range in North America. Most examined in the monument appeared to be intergrades between two subspecies, the Great Basin gopher snake (*P. c. deserticola*) and the pacific gopher snake (*P. c. catenifer*). There is a broad area of intergradation between these two geographical variations through the central part of Oregon.

Common Garter Snake *Thamnophis sirtalis* Present SR,CL U B

Despite its name, these brightly striped snakes were not found to be particularly common in the monument during the 2002 inventory. Highly aquatic in their choice of habitats, only three common garter snakes were located during repeated visits to the riparian areas of the monument. Two adults were found in early April at the southern end of Picture Gorge in the Sheep Rock Unit, and in late July one juvenile of this species was observed in the Clarno Unit crossing Highway 218 near the Clarno Picnic Area. Although none were seen in the Painted Hills Unit during this project, common garter snakes were found along Bridge Creek during the 1984 surveys (St. John 1984). A number of subspecies have been described across the coast-to-coast range of this snake. The valley garter snake (*T. s. fitchi*) is the variation that occurs in eastern Oregon.

Western Terrestrial Garter Snake *Thamnophis elegans* Present SR,PH C B

The common name for this species is misleading, as it is actually very aquatic in its habits east of the Cascade Mountains. Several were encountered in the Sheep Rock Unit along Rock Creek and the John Day River. Others were seen in the Painted Hills Unit while doing surveys of Bridge Creek. Although in 1984 this species was found a few miles west of the monument boundary along the John Day River near Clarno, none were observed within the Clarno Unit during this project (St. John 1984). The species may occur along the Pine Creek drainage, but confirmation is needed. Six subspecies are currently recognized, with the wandering garter snake (*T. e. vagrans*) native to the eastern portions of Oregon.

Night Snake *Hypsiglena torquata* Present SR,CL U B

This small reptile was difficult to detect during the inventory, but it is probably more widespread in the rocky canyons of the monument than our current meager records indicate. Because of its secretive, nocturnal habits it is rarely encountered. The night snake was confirmed in the Clarno Unit during the 2002 inventory with the help of the

inquisitive young science students prowling the vicinity of the Hancock Field Station. There, this snake was found under boards, in the shower stalls (where it probably hunts pacific treefrogs in the moist environment), and once in a kitchen drawer! On July 28, 2002, the Hancock staff captured a night snake that was photographed. Mark Berry, manager of the Pine Creek Ranch, reported that he found one of these snakes crossing Highway 218, just outside the eastern boundary of the monument, at approximately 10:30 p.m., on August 14, 2002. During the summer of 1984, Kim Sikoryak, a staff naturalist for the John Day Fossil Beds National Monument, reported that he had found a dead night snake on Highway 19, two miles north of the Foree Area turnoff. In 2003, night snakes were found in the Foree area and near the confluence of Rock Creek and the John Day River. Several subspecies have been described for this snake, but not all of them have been accepted as valid by many herpetologists. The desert night snake (*H. t. deserticola*) is the race that is believed to occur in Oregon.

Western Rattlesnake *Crotalus viridis* Present SR,CL C B

The dry, brushy character of the rocky canyons in the John Day Fossil Beds National Monument offers ideal habitat for rattlesnakes. A number of these pit vipers were encountered during this project. In the Sheep Rock Unit, rattlesnakes were frequently found at various locations on Highway 19, both alive and dead. During April of 2002, several western rattlesnakes were discovered in three hibernacula sites in talus on the slopes below Sheep Rock and directly east across the John Day River from the Cant House Visitors Center. One adult was observed along lower Rock Creek as well. Rattlesnakes were also found in the Clarno Unit while road hunting Highway 218. Despite considerable time spent road hunting in the Painted Hills Unit, no snakes of this species were seen there. Staff at that unit indicated that these venomous reptiles were not commonly encountered. Eight subspecies of the western rattlesnake are currently recognized, with the northern pacific rattlesnake (*C. v. oreganos*) being the variation native to the area of the monument. All of the specimens examined in the monument had morphological characteristics typical for this subspecies.

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Tables

Table 1. The list of bird species that are expected or possibly may occur in or adjacent to the John Day Fossil Beds National Monument and their status during the 2002-2003 vertebrate inventory. Data from inventory point counts, the 2001-2003 Antone Christmas Bird Counts, the 2003 Wheeler County migratory bird survey, the Pine Creek Ranch adjacent to the Clarno Unit, and monument staff sightings from 2001 and 2002 are included in the species confirmed field. A "1" is used to represent a positive value and "0" represents a negative value for expected, confirmed, or breeding entries for each species. Species receiving a "0" in the expected field are possible but unlikely species in the monument.

Order	Family	Common Name	Expected	Confirmed
Podicipediformes				
	Podicipedidae			
		Western Grebe	0	1
		Pied-Billed Grebe	1	1
Pelecaniformes				
	Pelecanidae			
		American white pelican	0	0
Pelecaniformes				
	Phalacrocoracidae			
		Double-Crested Cormorant	0	1
Ciconiiformes				
	Ardeidae			
		American Bittern	0	0
		Great Blue Heron	1	1
		Great Egret	1	1
		Snowy Egret	0	0
		Black Crowned Night Heron	0	0
Ciconiiformes				
	Threskiornithidae			
		White-faced Ibis	0	1
Ciconiiformes				
	Cathartidae			
		Turkey Vulture	1	1
Anseriformes				
	Anatidae			
		Greater White-fronted Goose	0	0
		Canada Goose	1	1
		Snow Goose	0	0
		Trumpeter Swan	1	1
		Tundra Swan	1	1
		Wood Duck	0	1
		Gadwall	1	1
		American Widgeon	1	1
		Mallard	1	1

Order	Family	Common Name	Expected	Confirmed
		Blue Winged Teal	1	1
		Cinnamon Teal	1	1
		Northern Shoveler	1	1
		Northern Pintail	1	0
		Green Winged Teal	1	1
		Canvasback	1	1
		Redhead	1	0
		Ring-necked Duck	1	1
		Lesser Scaup	1	1
		Bufflehead	1	1
		Common Goldeneye	1	1
		Hooded Merganser	0	0
		Common Merganser	1	1
		Ruddy Duck	1	1
Falconiformes				
	Accipitridae			
		Osprey	1	1
		Bald Eagle	1	1
		Northern Harrier	1	1
		Sharp Shinned Hawk	1	1
		Cooper's Hawk	1	1
		Northern Goshawk	1	1
		Swainson's Hawk	0	0
		Red Tailed Hawk	1	1
		Red-shouldered Hawk	0	0
		Rough-legged Hawk	1	0
		Ferruginous Hawk	0	0
		Golden Eagle	1	1
	Falconidae			
		American Kestrel	1	1
		Merlin	1	1
		Peregrine Falcon	0	1
		Prairie Falcon	1	1
Galliformes				
	Phasianidae			
		Chukar	1	1
		Gray Partridge	0	0
		Ring Necked Pheasant	1	1
		Wild Turkey	1	1
	Odontophoridae			
		Mountain Quail	1	1
		California Quail	1	1
Gruiformes				
	Rallidae			
		Virginia Rail	1	1

Order	Family	Common Name	Expected	Confirmed
		Sora	1	1
		American Coot	1	1
	Gruidae			
		Sandhill Crane	1	1
Charadriiformes				
	Charadriidae			
		Killdeer	1	1
	Recurvirostridae			
		Black-Necked Stilt	0	0
		American Avocet	0	0
	Scolopacidae			
		Greater Yellowlegs	0	0
		Spotted Sandpiper	1	1
		Least Sandpiper	1	1
		Western Sandpiper	1	1
		Long-Billed Curlew	1	0
		Long-billed Dowitcher	0	1
		Common Snipe	1	1
		Wilson's Phalarope	0	1
	Laridae			
		Ring-Billed Gull	1	1
		California Gull	1	1
		Herring Gull	0	0
		Forster's Tern	0	1
		Caspian Tern	0	1
Columbiformes				
	Columbidae			
		Rock Dove	1	1
		Mourning Dove	1	1
Strigiformes				
	Tytonidae			
		Barn Owl	1	1
	Strigidae			
		Flammulated Owl	0	0
		Western Screech Owl	1	1
		Great Horned Owl	1	1
		Northern Pygmy Owl	0	0
		Barred Owl	0	1
		Long Eared Owl	1	1
		Short Eared Owl	1	0
		Northern Saw Whet Owl	0	0
Caprimulgiformes				
	Caprimulgidae			
		Common Nighthawk	1	1
		Common Poorwill	1	1

Order	Family	Common Name	Expected	Confirmed
Apodiformes				
	Apodidae			
		Vaux's Swift	1	1
		White Throated Swift	1	1
	Trochilidae			
		Black Chinned Hummingbird	1	1
		Calliope Hummingbird	0	1
		Rufous Hummingbird	1	1
Coraciiformes				
	Alcedinidae			
		Belted Kingfisher	1	1
Piciformes				
	Picidae			
		Lewis's Woodpecker	0	1
		Williamsons's Sapsucker	0	0
		Red Naped Sapsucker	0	1
		Downy Woodpecker	1	1
		Hairy Woodpecker	1	1
		White-Headed Woodpecker	0	0
		Northern Flicker	1	1
Passeriformes				
	Tyrannidae			
		Olive Sided Flycatcher	0	0
		Western Wood Pewee	1	1
		Willow Flycatcher	1	0
		Least Flycatcher	0	1
		Dusky Flycatcher	1	1
		Gray Flycatcher	1	0
		Say's Phoebe	1	1
		Ash Throated Flycatcher	1	1
		Eastern Kingbird	0	1
		Western Kingbird	1	1
	Laniidae			
		Loggerhead Shrike	1	1
		Northern Shrike	1	1
	Vireonidae			
		Cassin's Vireo	0	0
		Warbling Vireo	1	1
	Corvidae			
		Gray Jay	0	0
		Steller's Jay	0	0
		Western Scrub Jay	0	1
		Clark's Nutcracker	0	1
		Black-Billed Magpie	1	1
		American Crow	1	1

Order	Family	Common Name	Expected	Confirmed
		Common Raven	1	1
	Alaudidae			
		Horned Lark	1	1
	Hirundinidae			
		Tree Swallow	1	1
		Violet Green Swallow	1	1
		Northern Rough Winged Swallow	1	1
		Bank Swallow	1	1
		Cliff Swallow	1	1
		Barn Swallow	1	1
	Paridae			
		Black Capped Chickadee	1	1
		Mountain Chickadee	1	1
	Aegithalidae			
		Bushtit	1	1
	Sittidae			
		Red Breasted Nuthatch	1	0
		White Breasted Nuthatch	0	0
		Pygmy Nuthatch	0	0
	Certhiidae			
		Brown Creeper	0	0
	Troglodytidae			
		Rock Wren	1	1
		Canyon Wren	1	1
		House Wren	1	0
		Winter Wren	1	1
		Marsh Wren	1	1
	Cinclidae			
		American Dipper	1	1
	Regulidae			
		Golden Crowned Kinglet	1	1
		Ruby Crowned Kinglet	1	1
	Turdidae			
		Western Bluebird	1	1
		Mountain Bluebird	1	1
		Townsend's Solitaire	1	1
		Swainson's Thrush	0	0
		Hermit Thrush	0	1
		American Robin	1	1
		Varied Thrush	0	0
	Mimidae			
		Gray Catbird	0	1
		Northern Mockingbird	0	1
		Sage Thrasher	1	1
	Sturnidae			

Order	Family	Common Name	Expected	Confirmed
		European Starling	1	1
	Bombycillidae			
		Cedar Waxwing	1	1
	Parulidae			
		Orange Crowned Warbler	1	1
		Nashville Warbler	1	1
		Yellow Warbler	1	1
		Yellow Rumped Warbler	1	1
		Townsend's Warbler	0	0
		Black Throated Gray Warbler	1	1
		Macgillivray's Warbler	1	1
		Common Yellowthroat	0	0
		Wilson's Warbler	1	1
		Yellow Breasted Chat	1	1
	Thraupidae			
		Western Tanager	1	1
	Emberizidae			
		Green Tailed Towhee	1	0
		Spotted Towhee	1	1
		Chipping Sparrow	1	1
		Brewer's Sparrow	1	1
		Vesper Sparrow	1	1
		Lark Sparrow	1	1
		Sage Sparrow	0	0
		Black-throated Sparrow	0	0
		Savannah Sparrow	1	1
		Fox Sparrow	1	1
		Song Sparrow	1	1
		Lincoln's Sparrow	1	1
		Golden-crowned Sparrow	1	1
		White Crowned Sparrow	1	1
		Dark Eyed Junco	1	1
		Lapland Longspur	1	1
	Cardinalidae			
		Black Headed Grosbeak	1	1
		Lazuli Bunting	1	1
	Icteridae			
		Red Winged Blackbird	1	1
		Tricolored Blackbird	0	1
		Western Meadowlark	1	1
		Yellow Headed Blackbird	1	1
		Brewer's Blackbird	1	1
		Brown Headed Cowbird	1	1
		Bullock's Oriole	1	1
	Fringillidae			

Order	Family	Common Name	Expected	Confirmed
		Gray-crowned Rosy Finch	0	0
		Cassin's Finch	1	1
		House Finch	1	1
		Red Crossbill	0	0
		Pine Siskin	1	1
		Lesser Goldfinch	1	1
		American Goldfinch	1	1
		Evening Grosbeak	1	0
	Passeridae			
		House Sparrow	1	1
		Total Observed	**146**	**155**
		Total Percent Confirmed		**0.97**

[a] The % confirmed is determined from the number of expected species which is currently 13 species less than the total number of confirmed species.

Table 2. Raptor nests, species, and locations found or relocated in and adjacent to the John Day Fossil Beds National Monument during the 2002-2003 vertebrate inventory.

Nest[a]	Species [b]	UTM X	UTM Y	Legal Description
01PH	AMKE	717480	4948515	T10S.R21E.Sec.31 SW1/4 NE1/16
02PH	Unknown	717394	4948335	T10S.R21E.Sec.31 SW1/4 NW1/16
03PH	CORA	716580	4948374	T10S.R20E.Sec.36 SE1/4 NE1/16
04PH	Unknown	716613	4948329	T10S.R20E.Sec.36 SE1/4 NE1/16
05PH	RTHA	714552	4946129	T11S.R20E.Sec.2 SE1/4 NW1/16
06PH	AMKE	717709	4948013	T10S.R21E.Sec.31 SW1/4 SE1/16
07PH	LEOW	715822	4945885	T11S.R20E.Sec.1 SW1/4 SE 1/16
08PH	AMKE	718303	4947731	T10S.R21E.Sec.31 SE1/4 SE1/16
09PH	LEOW	716928	4946441	T11S.R20E.Sec.1 SE1/4 SE 1/16
10CL	GHOW	702277	4976325	T7S.R19E.Sec.34 SW1/4 NW1/16
11CL	RTHA	703580	4976150	T7S.R19E.Sec.35 SW1/4 SW1/16
12SR	AMKE	289702	4935974	T12S.R26E.Sec.7 NW1/4 NE1/16
13SR	Unknown	290750	4948200	T10S.R26E.Sec.31 NE1/4 SW1/16
14SR	AMKE	291039	4948194	T10S.R26E.Sec.31 NE1/4 SW1/16
15SR	Unknown	290625	4948200	T10S.R26E.Sec.31 NE1/4 SW1/16
16SR	AMKE	290570	4948250	T10S.R26E.Sec.31 NE1/4 SW1/16
17SR	Unknown	291990	4936994	T12S.R26E.Sec.18 NE1/4 NW1/16
18CL	GHOW	704000	4976250	T7S.R19E.Sec.35 SW1/4 NE1/16
19PH	NOHA	718070	4947929	T10S.R21E.Sec.31 SE1/4 SW1/16
20SR	RTHA	290175	4945125	T11S.R26E.Sec.7 NW1/4 SE1/16
21SR	Unknown	290125	4945125	T11S.R26E.Sec.7 NW1/4 SE1/16
22SR	Unknown	290185	4945150	T11S.R26E.Sec.7 NW1/4 SE1/16
23SR	RTHA	290710	4944250	T11S.R26E.Sec.7 SE1/4 SW1/16
24SR	GOEA	289846	4933209	T12S.R26E.Sec.18 SW1/4 SE1/16
25SR	AMKE	290190	4945250	T11S.R26E.Sec.7 NW1/4 SE1/16
26SR	GOEA	289875	4934250	T12S.R26E.Sec.18 NW1/4 NE1/16
27PH	RTHA	719875	4946025	T11S.R21E.Sec.8 NE1/4 NW1/16
28CL	NOHA	702250	4975950	T7S.R19E.Sec.34 SW1/4 SW1/16
29SR	Unknown	291000	4933250	T12S.R26E.Sec.17 SW1/4 SW1/16
30SR	SCOW	292660	4934500	T12S.R26E.Sec.9 SW1/4 SW1/16
31SR	GHOW	290022	4936751	T12S.R26E.Sec.6 SW1/4 NE1/16
32PH	BAOW	717416	4948364	T10S.R21E.Sec.31 SW1/4 NE1/16
33PH	BAOW	716595	4948352	T10S.R20E.Sec.36 SE1/4 NE1/16

[a] The two-letter code following the nest number indicate the monument unit in which the nest is located: SR – Sheep Rock; CL –Clarno; PH – Painted Hills.

[b] AMKE – American kestrel
CORA – common raven
RTHA – red-tailed hawk
LEOW – long-eared owl
GHOW – great-horned owl
NOHA – northern harrier
SCOW – screech owl
BAOW-barn owl

Table 3. Raptor nest status in the John Day Fossil Beds National Monument during 2002 and 2003.

Nest	Species	Nest Type	Status	Date[a]
01PH	AMKE	cavity/cliff	Active	Inactive
02PH	Unknown	stick/cliff	Inactive	Inactive
03PH	CORA	stick/cliff	Active	Inactive
04PH	Unknown	stick/cliff	Inactive	Inactive
05PH	RTHA	stick/tree	Active	Active
06PH	AMKE	nest box	Active	Active
07PH	LEOW	stick/tree	Active	Inactive
08PH	AMKE	cavity/tree	Active	Inactive-Nest Burned
09PH	LEOW	stick/tree	Active	Inactive-Nest Burned
10CL	GHOW	stick/tree	Active	Inactive
11CL	RTHA	stick/cliff	Active	Inactive
12SR	AMKE	cavity/tree	Active	Undetermined
13SR	Unknown	stick/cliff	Inactive	Undetermined
14SR	AMKE	cavity/tree	Active	Undetermined
15SR	Unknown	stick/cliff	Inactive	Undetermined
16SR	AMKE	cavity/cliff	Active	Undetermined
17SR	Unknown	stick/tree	Inactive	Undetermined
18CL	GHOW	unknown	Active	Active
19PH	NOHA	ground	Active	Inactive
20SR	RTHA	stick/cliff	Active	Inactive
21SR	Unknown	stick/cliff	Inactive	Inactive
22SR	Unknown	stick/cliff	Inactive	Inactive
23SR	RTHA	stick/tree	Active	Inactive
24SR	GOEA	stick/cliff	Active	Inactive
25SR	AMKE	cavity/cliff	Active	Undetermined
26SR	GOEA	stick/cliff	Inactive	Inactive
27PH	RTHA	stick/tree	Active	Undetermined
28CL	NOHA	ground	Active	Inactive
29SR	Unknown	cliff	Inactive	Undetermined
30SR	SCOW	cavity/tree	Active	Undetermined
31SR	GHOW	stick/tree	Inactive	Active
32PH	BAOW	cavity/cliff	Inactive	Active
33PH	BAOW	cavity/cliff	Inactive	Active

[a] The date field indicates the first date of observation.

Table 4. Date, location, and number of point counts for each route conducted during 2002 in the John Day Fossil Beds National Monument.

Count	Date	Location[a]	Stations
CL1	5/5/02	HFS driveway and Hwy. 218	7
CL2	5/6/02	Lee's Canyon	2
CL3	5/6/02	Hancock Cyn. and Upper Indian Cyn.	6
CL4	6/11/02	HFS, Red Hill, and north boundary	6
CL5	6/11/02	Lower Indian Canyon	5
PH1	4/30/02	Upper Bridge Cr.	8
PH2	5/1-2/02	Interior park road	12
PH3	5/2/02	Lower Bridge Creek	7
PH4	6/5/02	2nd visit to Upper Bridge Creek	5
PH5	6/6/02	Uplands along south boundary	4
SR1	4/23-24/02	John Day River and Hwy. 19	19
SR2	4/24/02	Rock Creek	5
SR3	4/25/02	Foree Uplands	6
SR4	5/31/02	2nd visit to JD river and Hwy. 19	3
SR5	5/21/02	Cathedral Rock	1
SR6	6/1/02	Deer Gulch and Middle Mtn.	4
SR7	5/30/02	Road to spring above house	2

Table 5. Point count results for routes conducted in the Clarno Unit of the John Day Fossil Beds National Monument in 2002.

Common Name	CL1	CL2	CL3	CL4	CL5	Total
Western Meadowlark	7	4	17	14	14	56
Violet-green Swallow	22		1			23
Brewer's Blackbird	17		2			19
Cliff Swallow	15	1			1	17
Western Kingbird	10	2	1	1	2	16
Chukar	4	1	3	2	4	14
Rock Wren	1	1	4	6	1	13
Mourning Dove	6		5	1	1	13
Common Raven	3		5	2	1	11
Say's Phoebe	8		1	1	1	11
American Robin	7		3	1		11
Dusky Flycatcher		2	5	1	1	9
House Finch	5		2	2		9
Lark Sparrow				6	2	8
American Goldfinch	1	2	1	3	1	8
White-throated Swift					7	7
White-crowned Sparrow	2		5			7
Northern Oriole	1			1	4	6
Red-winged Blackbird	6					6
American Kestrel	2		2		1	5
Western Bluebird	3			1		4
Loggerhead Shrike		1			2	3
Red-tailed Hawk	1				2	3
Rock Dove	2				1	3
Mallard	1		2			3
Lesser Goldfinch	1		2			3
Canyon Wren	2		1			3
Common Nighthawk					2	2
Bushtit					2	2
Northern Mockingbird					2	2
Warbling Vireo	1		1			2
Ruby-crowned Kinglet	1		1			2
Chipping Sparrow	1		1			2
Turkey Vulture	2					2
Northern Harrier				1		1
Ash-throated Flycatcher				1		1
Brewer's Sparrow				1		1
Brown-headed Cowbird				1		1
Western Tanager			1			1
Golden-crowned Sparrow			1			1
Killdeer		1				1
Vaux's Swift		1				1

Common Name	CL1	CL2	CL3	CL4	CL5	Total
American Crow		1				1
Great-horned Owl	1					1
European Starling	1					1
Song Sparrow	1					1
Total	**136**	**17**	**67**	**46**	**52**	**318**

Table 6. Point count results for routes conducted in the Painted Hills Unit of the John Day Fossil Beds National Monument in 2002.

Common Name	PH1	PH2	PH3	PH4	PH5	Total
Western Meadowlark	12	34	6	3	14	69
Red-winged Blackbird	24	6	9	16		55
Brewer's Blackbird	31	2	12	1	1	47
Northern Rough-winged Swallow	23		3	2		28
Western Kingbird	4	9	6	6	1	26
Bank Swallow				23		23
White-crowned Sparrow		16	7			23
Brown-headed Cowbird	15			2		17
Say's Phoebe	5	7	4			16
American Goldfinch	5	6		2	2	15
Cliff Swallow		8	6			14
Common Raven	1	4	3	2	3	13
Mourning Dove	3	5	1	1	3	13
Song Sparrow	5		1	7		13
Mallard	10			1		11
Rock Wren		8	1		1	10
American Robin		4		3	2	9
European Starling	5	2		2		9
Dusky Flycatcher		2			4	6
American Kestrel	2	2	1		1	6
Yellow Warbler				6		6
California Quail	1	3		1		5
Spotted Towhee	3		2			5
Chipping Sparrow	1	4				5
Northern Oriole				3	1	4
Red-tailed Hawk	2	1			1	4
Western Wood Pewee				4		4
Cedar Waxwing				4		4
Ring-necked Pheasant	1		2	1		4
Belted Kingfisher	2		1	1		4
Green-winged Teal	3			1		4
Canada Goose		4				4
Loggerhead Shrike	1	3				4
Lark Sparrow					3	3
Ash-throated Flycatcher				1	2	3
Spotted Sandpiper				3		3
Virginia Rail	2			1		3
Yellow-rumped Warbler	1		2			3
Chukar		2	1			3
Northern Flicker	2					2
Lincoln's Sparrow	2					2

Common Name	PH1	PH2	PH3	PH4	PH5	Total
House Finch	2					2
Common Nighthawk					1	1
Black-billed Magpie					1	1
Orange-crowned Warbler				1		1
Golden Eagle		1				1
Cinnamon Teal	1					1
Northern Harrier	1					1
Killdeer	1					1
Total	**171**	**133**	**68**	**98**	**41**	**511**

Table 7. Point count results for routes conducted in the Sheep Rock Unit of the John Day Fossil Beds National Monument in 2002.

Common Name	SR1	SR2	SR3	SR4	SR5	SR6	SR7	Total
Violet-green Swallow	54	1		6	15			76
Red-winged Blackbird	55			12	1		1	69
Brewer's Blackbird	30			5	1		2	38
Western Meadowlark	6		11	2		9	5	33
Cliff Swallow	17			1	10	4		32
European Starling	26			2	1			29
Rock Dove	26							26
White-crowned Sparrow	21		3					24
American Goldfinch	16		4	1	1			22
Song Sparrow	15			4	1			20
Chukar	5		6	1		2	3	17
Mallard	11			2	3			16
Rock Wren		1	8	2	1	2		14
American Robin	9			3				12
Canada Goose	9						1	10
Barn Swallow	1			4	1		3	9
Yellow Warbler				4	4		1	9
Brown-headed Cowbird				6	2		1	9
Lincoln's Sparrow	8							8
Common Merganser	5	2						7
Bushtit						1	5	6
Canyon Wren	1	2	1		1	1		6
Say's Phoebe	4				1	1		6
Northern Rough-winged Swallow	6							6
Northern Oriole				1	1	1	2	5
American Crow	4		1					5
Vaux's Swift	5							5
White-throated Swift	5							5
California Quail				1		1	2	4
Western Kingbird				2		1	1	4
American Kestrel			3		1			4
Yellow-headed Blackbird	1			3				4
Mourning Dove	2			2				4
Common Raven			3	1				4
Orange-crowned Warbler	1	3						4
Spotted Sandpiper				1	1		1	3
Ash-throated Flycatcher				2		1		3
Virginia Rail	2			1				3
Northern Flicker	2		1					3
Belted Kingfisher	2	1						3
Yellow-rumped Warbler	3							3

Common Name	SR1	SR2	SR3	SR4	SR5	SR6	SR7	Total
Lazuli Bunting				1			1	2
Black-throated Gray Warbler						2		2
Great-blue Heron	1					1		2
Western Wood Pewee				2				2
Killdeer	1			1				2
Ruby-crowned Kinglet	1		1					2
Golden-crowned Sparrow	1		1					2
Cinnamon Teal	2							2
Loggerhead Shrike						1		1
Western Tanager						1		1
Chipping Sparrow						1		1
Vesper Sparrow						1		1
Red-tailed Hawk					1			1
Wilson's Warbler					1			1
Black-headed Grosbeak					1			1
Sora				1				1
Black-billed Magpie				1				1
Macgillivray's Warbler				1				1
Brewer's Sparrow			1					1
American Dipper		1						1
Golden Eagle	1							1
Total	**359**	**11**	**44**	**76**	**49**	**31**	**29**	**599**

Table 8. Results from the analysis of great-horned and long-eared owl pellets collected in the Clarno and Painted Hills Units in 2002.

Nest Species Date Collected	Nest09PH Long-eared Owl 6/5/02	Nest07PH Long-eared Owl 6/6/02	Nest18CL Great Horned Owl 6/12/02
Rock Dove			1
Chukar			1
Unidentified Passerine		1	
Unidentified Raptor			1
Sorex spp. (Unidentified Shrew)		1	2
Sylvilagus nuttallii (Mountain Cottontail)	1	2	3
Thomomys talpoides (Northern Pocket Gopher)		3	7
Perognathus parvus (Great Bain Pocket Mouse)	6	7	9
Dipodomys ordii (Ord's Kangaroo Rat)	3	2	
Reithrodontomys megalotis (Western Harvest Mouse)	1	5	
Peromyscus maniculatus (Deer Mouse)	12	11	12
Neotomoa cinerea (Bushy-tailed Wood Rat)	2		3
Microtus longicaudus (Long-tailed Vole)[a]	2	1	
Microtus montanus (Montane Vole)	22	18	11
Actinopterygii (ray-finned fishes)	1	1	1
Arachnida:Scorpionida (Scorpion)			1
Insecta:Coleoptera (Beetles)		1	2

[a] tentative identification

Table 9. The list of mammal species that are expected or possibly may occur in or adjacent to the John Day Fossil Beds National Monument and their status during the 2002-2003 vertebrate inventory.

Order	Family	Common Name	Expected	Confirmed
Insectivora				
	Soricidae			
Sorex	*palustris*	Water Shrew	0	0
Sorex	*merriami*	Merriam's Shrew	1	0
Sorex	*preblei*	Prebles Shrew	0	0
Sorex	*vagrans*	Vagrant Shrew	1	1
	Talpidae			
Scapanus	*orarius*	Coast Mole	1	1
Chiroptera				
	Vespertilionidae			
Myotis	*californicus*	California Myotis	1	1
Myotis	*ciliolabrum*	Western Small Footed Myotis	1	1
Myotis	*evotis*	Long Eared Myotis	1	1
Myotis	*lucifugus*	Little Brown Myotis	1	1
Myotis	*thysanodes*	Fringed Myotis	1	1
Myotis	*volans*	Long Legged Myotis	1	1
Myotis	*yumanensis*	Yuma myotis	1	1
Lasiurus	*cinereus*	Hoary Bat	1	1
Lasionycteris	*nocivagans*	Silver Haired Bat	1	1
Pipistrellus	*hesperus*	Western Pipistrelle	1	1
Eptesicus	*fuscus*	Big Brown Bat	1	1
Euderma	*maculatum*	Spotted Bat	1	1
Corynorhinus	*townsendii*	Townsend's Big Eared Bat	1	1
Antrozous	*pallidus*	Pallid Bat	1	1
Lagomorpha				
	Leporidae			
Sylvilagus	*nuttallii*	Mountain Cottontail	1	1
Lepus	*californicus*	Black Tailed Jackrabbit	1	1
Rodentia				
	Sciuridae			
Tamias	*minimus*	Least Chipmunk	0	0
Marmota	*flaviventris*	Yellow Bellied Marmot	1	1
Spermophilus	*beldingi*	Belding's Ground Squirrel	1	1
Spermophilus	*canus*	Merriam's Ground Squirrel	0	0
Spermophilus	*lateralis*	Golden Mantled Ground Squirrel	1	1
	Geomyidae			

Order	Family	Common Name	Expected	Confirmed
Thomomys	*talpoides*	Northern Pocket Gopher	1	1
	Heteromyidae			
Perognathus	*parvus*	Great Basin Pocket Mouse	1	1
Dipodymys	*ordii*	Ord's Kangaroo Rat	1	1
	Castoridae			
Castor	*canadensis*	Beaver	1	1
	Muridae			
Reithrodontomys	*megalotis*	Western Harvest Mouse	1	1
Peromyscus	*crinitus*	Canyon Mouse	1	1
Peromyscus	*maniculatus*	Deer Mouse	1	1
Peromyscus	*truei*	Pinyon Mouse	1	1
Onychomys	*leucogaster*	Northern Grasshopper Mouse	1	0
Neotoma	*cinerea*	Bushy Tailed Woodrat	1	1
Mus	*musculus*	House Mouse	0	0
Microtus	*longicaudus*	Long Tailed Vole	1	0
Microtus	*montanus*	Montane Vole	1	1
Lemmiscus	*curtatus*	Sagebrush Vole	1	0
Ondatra	*zibethicus*	Common Muskrat	1	1
	Dipodidae			
Zapus	*trinotatus*	Western Jumping Mouse	0	0
	Erethizontidae			
Erethizon	*dorsatum*	Porcupine	1	1
Carnivora				
	Canidae			
Canis	*latrans*	Coyote	1	1
Vulpes	*vulpes*	Red Fox	0	0
	Procyonidae			
Procyon	*lotor*	Common Raccoon	1	1
	Mustelidae			
Mustela	*frenata*	Long Tailed Weasel	1	0
Mustela	*erminea*	Ermine	0	0
Mustela	*vison*	Mink	1	1
Taxidea	*taxus*	American Badger	1	1
Lutra	*canadensis*	River Otter	1	1
	Mephitidae			
Spilogale	*gracilis*	Western Spotted Skunk	1	1

Order	Family	Common Name	Expected	Confirmed
Mephitis	*mephitis*	Striped Skunk	1	1
	Felidae			
Puma	*concolor*	Cougar	1	1
Lynx	*rufus*	Bobcat	1	1
Artiodactyla				
	Cervidae			
Cervus	*elaphus*	Elk	1	1
Odocoileus	*hemionus*	Mule Deer	1	1
	Antilocapridae			
Antilocapra	*americana*	Pronghorn	1	1
	Bovidae			
Ovis	*canadensis*	Bighorn Sheep	0	1
		Total	**50**	**46**
		% Confirmed		**0.90**

Table 10. The location, trap type, and number of trap nights for each transect, pitfall array, and miscellaneous mammal capture effort during the 2002-2003 John Day Fossil Beds National Monument vertebrate inventory.

Transect	Date	Legal Description	Trap Nights	Trap Type
tran001SR	4/26/02	T12S.R26E.Sec.20 SW1/4 NE1/16	40	Sherman/Snap
tran002SR	4/26/02	T12S.R26E.Sec.20 SW1/4 NE1/16	40	Sherman/Snap
tran003SR	4/26/02	T12S.R26E.Sec.20 NW1/4 SW1/16	36	Sherman/Snap
pit01PH	4/30/02	T10S.R21E.Sec.31 SE1/4 NW1/16	4	Pitfall
pit02PH	4/30/02	T10S.R21E.Sec.31 SE1/4 NW1/16	4	Pitfall
pit03PH	4/30/02	T11S.R20E.Sec.2 NE1/4 SE1/16	4	Pitfall
tran004PH	5/3/02	T10S.R21E.Sec.31 SE1/4 NW1/16	40	Sherman/Snap
tran005PH	5/3/02	T10S.R21E.Sec.31 SE1/4 NW1/16	40	Sherman/Snap
tran006PH	5/3/02	T10S.R21E.Sec.31 SE1/4 NW1/16	36	Sherman/Snap
pit04CL	5/5/02	T7S.R19E.Sec.33 NE1/4 NE1/16	3	Pitfall
pit05CL	5/5/02	T7S.R19E.Sec.34 NE1/4 SW1/16	3	Pitfall
tran007CL	5/7/02	T7S.R19E.Sec.35 NE1/4 SE1/16	40	Sherman/Snap
tran008CL	5/7/02	T7S.R19E.Sec.35 NE1/4 SE1/16	40	Sherman/Snap
tran009CL	5/7/02	T7S.R19E.Sec.35 SE1/4 NW1/16	20	Sherman/Snap
tran010CL	5/7/02	T7S.R19E.Sec.33 NE1/4 NE1/16	24	Sherman/Snap
misc001CL	5/6/02	T7S.R19E.Sec.35 SE1/4 NW1/16	15	Snap
pit06SR	5/18/02	T12S.R26E.Sec.20 SW1/4 NE1/16	2	Pitfall
pit07SR	5/18/02	T12S.R26E.Sec.20 SW1/4 NE1/16	2	Pitfall
tran011SR	5/18/02	T11S.R26E.Sec.6 NE1/4 NW/16	40	Sherman/Snap
tran012SR	5/18/02	T11S.R26E.Sec.6 NE1/4 NW/16	48	Sherman/Snap
tran013SR	5/18/02	T11S.R26E.Sec.6 NE1/4 NW/16	38	Sherman/Snap
tran014SR	5/18/02	T11S.R26E.Sec.6 NE1/4 NW/16	40	Sherman/Snap
tran015SR	5/18/02	T10S.R26E.Sec.31 SE1/4 SW 1/16	40	Sherman/Snap
tran016SR	5/18/02	T10S.R26E.Sec.31 SE1/4 SW 1/16	32	Sherman/Snap
misc02SR	5/18/02	T11S.R26E.Sec.6 NE1/4 NW/16	14	Snap
misc003SR	5/18/02	T12S.R26E.Sec.20 SW1/4 NE1/16	27	Havahart/Snap
misc004SR	5/18/02	T12S.R26E.Sec.7 SE1/4 SW1/16	16	Snap
tran017PH	5/23/02	T10S.R21E.Sec.31 SW1/4 NE1/16	40	Sherman/Snap
misc005PH	5/23/02	T10S.R21E.Sec.31 SW1/4 NE1/16	10	Snap
tran018PH	5/23/02	T10S.R21E.Sec.31 NW1/4 SE1/16	40	Sherman/Snap
tran019PH	5/23/02	T10S.R20E.Sec.36 SE1/4 NE1/16	40	Sherman/Snap
tran020PH	5/23/02	T10SR21E.Sec.31 SW1/4 NW1/16	40	Sherman/Snap
tran021PH	5/23/02	T10S.R20E.Sec.36 SW1/4 SW1/16	40	Sherman/Snap
tran022PH	5/23/02	T10S.R20E.Sec.36 SW1/4 SW1/16	36	Sherman/Snap
misc006SR	5/24/02	T12S.R26E.Sec.18 SE1/4 NE1/16	10	Snap
tran023CL	5/24/02	T7S.R19E.Sec.33 NE1/4 NE1/16	40	Sherman/Snap
tran024CL	5/28/02	T7S.R19E.Sec.33 NE1/4 NE1/16	40	Sherman/Snap
tran025CL	5/28/02	T7S.R19E.Sec.33 NE1/4 SE1/16	40	Sherman/Snap
tran026CL	5/28/02	T7S.R19E.Sec.34 SE1/4 NE1/16	40	Sherman/Snap
tran027CL	5/28/02	T7S.R19E.Sec.34 SE1/4 NE1/16	40	Sherman/Snap
tran028CL	5/28/02	T7S.R19E.Sec.35 SW1/4 SW1/16	40	Sherman/Snap

Transect	Date	Legal Description	Trap Nights	Trap Type
pit08SR	5/29/02	T12S.R25E.Sec.12 NE1/4 NE1/16	5	Pitfall
pit09SR	5/30/02	T12S.R25E.Sec.1 SE1/4 SE1/16	4	Pitfall
tran029SR	6/2/02	T12S.R25E.Sec.12 NE1/4 NE1/16	40	Sherman/Snap
tran030SR	6/2/02	T12S.R25E.Sec.12 NE1/4 NE1/16	40	Sherman/Snap
tran031SR	6/2/02	T11S.R26E.Sec.20 SW1/4 NE1/16	40	Sherman/Snap
tran032SR	6/2/02	T11S.R26E.Sec.20 SW1/4 NE1/16	40	Sherman/Snap
tran033SR	6/2/02	T12S.R26E.Sec.6 SW1/4 SW1/16	40	Sherman/Snap
tran034SR	6/2/02	T12S.R25E.Sec.1 SE1/4 SE1/16	36	Sherman/Snap
misc07SR	6/2/02	T12S.R26E.Sec.18 SE1/4 NE1/16	16	Havahart
misc08SR	6/2/02	T12S.R26E.Sec.18 SE1/4 NE1/16	24	Snap
misc09PH	6/6/02	T10S.R21E.Sec.31 SE1/4 NW1/16	40	Havahart/Sherman/Snap
tran035PH	6/7/02	T11S.R20E.Sec.11 NE1/4 NW1/16	40	Sherman/Snap
tran036PH	6/7/02	T11S.R20E.Sec.11 NE1/4 NW1/16	40	Sherman/Snap
tran037PH	6/7/02	T11S.R20E.Sec.11 NE1/4 NW1/16	40	Sherman/Snap
tran038PH	6/7/02	T11S.R20E.Sec.11 NE1/4 NW1/16	40	Sherman/Snap
tran039PH	6/7/02	T11S.R20E.Sec.11 NE1/4 NW1/16	52	Sherman/Snap
tran040CL	6/12/02	T7S.R19E.Sec.34 SW1/4 NW1/16	40	Sherman/Snap
tran041CL	6/12/02	T7S.R19E.Sec.34 SW1/4 NW1/16	40	Sherman/Snap
tran042CL	6/12/02	T7S.R19E.Sec.34 SW1/4 NW1/16	40	Sherman/Snap
tran043CL	6/12/02	T7S.R19E.Sec.34 SW1/4 NE1/16	40	Sherman/Snap
misc010CL	6/12/02	T7S.R19E.Sec.33 NE1/4 SE1/16	8	Sherman
misc011CL	6/12/02	T7S.R19E.Sec.34 SW1/4 NE1/16	12	Sherman
misc012CL	6/12/02	T7S.R19E.Sec.7 SW1/4 NE1/16	4	Havahart
tran044SR	6/26/02	T12S.R26E.Sec.18 SW1/4 SE1/16	20	Sherman/Snap
tran045SR	6/26/02	T12S.R26E.Sec.18 NE1/4 SE1/16	20	Sherman/Snap
tran046SR	6/26/02	T12S.R26E.Sec.18 NE1/4 SE1/16	20	Sherman/Snap
tran047SR	6/26/02	T12S.R26E.Sec.7 SE1/4 SE1/16	20	Sherman/Snap
tran048SR	6/26/02	T12S.R26E.Sec.7 SE1/4 SE1/16	10	Sherman
tran049SR	6/26/02	T12S.R26E.Sec.18 SE1/4 NW1/16	10	Sherman
tran050SR	6/26/02	T12S.R26E.Sec.19 NW1/4 SW1/16	12	Snap
misc013SR	6/26/02	T12S.R26E.Sec.19 NW1/4 SW1/16	4	Havahart
tran051SR	8/8/02	T11S.R26E.Sec.29 NE1/4 NE1/16	40	Sherman/Snap
tran052SR	8/8/02	T11S.R26E.Sec.29 NE1/4 NE1/16	40	Sherman/Snap
tran053SR	8/8/02	T12S.R26E.Sec.6 SW1/4 NW1/16	40	Sherman/Snap
tran054SR	8/8/02	T12S.R26E.Sec.6 SW1/4 NW1/16	40	Sherman/Snap
misc017PH	8/22/02	T10S.R20E.Sec.36 SW1/4 SW1/16	10	Sherman
tran055PH	8/22/02	T11S.R20E.Sec.2 NE1/4 SE1/16	40	Sherman/Snap
tran056PH	8/22/02	T11S.R20E.Sec.2 SE1/4 NE1/16	40	Sherman/Snap
tran057PH	8/22/02	T11S.R20E.Sec.2 NE1/4 SE1/16	40	Sherman/Snap
tran058PH	8/22/02	T11S.R20E.Sec.2 NE1/4 SE1/16	40	Sherman/Snap
tran059CL	8/27/02	T7S.R19E.Sec.33 NE1/4 NE1/16	20	Sherman
tran060CL	8/27/02	T7S.R19E.Sec.33 NE1/4 NE1/16	20	Sherman
tran061CL	8/27/02	T7S.R19E.Sec.33 NE1/4 NE1/16	20	Sherman
tran062CL	8/27/02	T7S.R19E.Sec.33 NE1/4 NE1/16	20	Sherman
tran063SR	9/12/02	T12S.R26E.Sec.6 SW1/4 NW1/16	40	Sherman/Snap

Transect	Date	Legal Description	Trap Nights	Trap Type
tran064SR	9/12/02	T12S.R26E.Sec.6 SW1/4 NW1/16	40	Sherman/Snap
tran065SR	9/12/02	T12S.R26E.Sec.7 Se1/4 SW1/16	40	Sherman/Snap
tran066SR	9/12/02	T12S.R26E.Sec.7 SE1/4 SW1/16	40	Sherman/Snap
tran067SR	9/19/02	T12S.R26E.Sec.6 NW1/4 SE1/16	40	Sherman/Snap
tran068SR	9/19/02	T12S.R26E.Sec.6 NW1/4 SE1/16	40	Sherman/Snap
tran069SR	9/19/02	T12S.R26E.Sec.6 NE1/4 SW1/16	40	Sherman/Snap
tran070SR	9/19/02	T12S.R26E.Sec.6 NE1/4 SW1/16	40	Sherman/Snap
tran071PH	11/9/02	T11S.R20E.Sec.2 NE1/4 SE1/16	10	Sherman
tran072PH	11/9/02	T11S.R20E.Sec.2 NE1/4 SE1/16	10	Sherman
tran073PH	11/9/02	T10S.R20E.Sec.36 SW1/4 SW1/16	10	Sherman
misc18SR	5/1/03	Variable	16	Havahart
misc19CL	6/17/03	Variable	12	Havahart
misc20SR	6/24/03	Variable	78	Havahart
pit10SR	5/29/03	T11S. R26E. Sec.6	52	Pitfall
pit11SR	5/6/03	T11S. R26E. Sec.6	60	Pitfall
pit12SR	4/30/03	T12S. R16E. Sec.6	68	Pitfall
pit13SR	4/30/03	T12S R16E. Sec.6	68	Pitfall
pit14SR	4/30/03	T12S. R16E. Sec.12	68	Pitfall
pit15CL	5/13/03	T7S. R19E. Sec.34	16	Pitfall
pit16CL	5/13/03	T7S. R19E. Sec.33	20	Pitfall
Total			**3235**	

Table 11. Capture results and relative abundance of non-volant mammals based on 2002-2003 capture efforts in the John Day Fossil Beds National Monument.

	Species[a]										
Transect	**PEMA**	**PETR**	**PECR**	**PEPA**	**DIOR**	**REMA**	**NECI**	**SOVA**	**MIMO**	**MEME**	**Total**
tran001SR	11								2		13
tran002SR	9										9
tran003SR	1			1							2
pit01PH											0
pit02PH								2	1		3
pit03PH											0
tran004PH	19										19
tran005PH	17							1			18
tran006PH	22										22
pit04CL											0
pit05CL											0
tran007CL	7	1									8
tran008CL	4	1									5
tran009CL	1										1
tran010CL					1						1
misc01CL											0
pit06SR								2			2
pit07SR								2	1		3
tran011SR	1					1					2
tran012SR	3					1					4
tran013SR	6										6
tran014SR	9										9
tran015SR	5	1									6
tran016SR		5									5
misc02SR											0
misc03SR	1						1			1	3
misc04SR											0
tran017PH	22			1		1					24
misc05PH	1				1						2
tran018PH	18		2				5				25
tran019PH	5			1							6
tran020PH	10			1		2					13
tran021PH					5						5
tran022PH					1						1
misc06SR											0
tran023CL	1				3						4
tran024CL					2						2
tran025CL											0
tran026CL	3			5							8
tran027CL	2										2

Transect	PEMA	PETR	PECR	PEPA	DIOR	REMA	NECI	SOVA	MIMO	MEME	Total
tran028CL											0
pit08SR											0
pit09SR											0
tran029SR								2	1		3
tran030SR	1							1			2
tran031SR	2	1									3
tran032SR	5										5
tran033SR								1			1
tran034SR											0
misc07SR											0
misc08SR								1			1
misc09PH	8					1			9		18
tran035PH		1			2						3
tran036PH		1									1
tran037PH	3										3
tran038PH	2			2							4
tran039PH											0
tran040CL							1				1
tran041CL				1							1
tran042CL											0
tran043CL	5										5
misc10CL					1						1
misc11CL											0
misc12CL							1				1
tran044SR	6		2				1				9
tran045SR	3										3
tran046SR	3										3
tran047SR											0
tran048SR	1										1
tran049SR	1										1
tran050SR	1						1				2
misc13SR							2				2
tran051SR	8	1							1		10
tran052SR	5										5
tran053SR	2			3							5
tran054SR											0
misc17PH					2						2
tran055PH					3						3
tran056PH	2				2						4
tran057PH	3										3
tran058PH	1				1						2
tran059CL					1						1
tran060CL											0
tran061CL					1						1
tran062CL				1							1
tran063SR	1	1									2

Transect	PEMA	PETR	PECR	PEPA	DIOR	REMA	NECI	SOVA	MIMO	MEME	Total
tran064SR	2										2
tran065SR	2					1					3
tran066SR	4										4
tran067SR	1					3					4
tran068SR						1					1
tran069SR						2					2
tran070SR	1					3					4
tran071PH						3					3
tran072PH	2										2
tran073PH	1				1						2
misc18SR											**0**
misc19CL							**3**				**3**
misc20SR							**4**				**4**
pit10SR[b]											**0**
pit11SR	**1**			**2**							**3**
pit12SR[c]	**1**	**1**		**1**		**4**		**2**			**9**
pit13SR[d]	**1**	**1**		**1**							**3**
pit14SR	**1**								**2**		**3**
pit15CL						**2**					**2**
pit16CL				**3**					**1**		**4**
Total	**258**	**15**	**4**	**23**	**27**	**25**	**19**	**14**	**18**	**1**	**404**
Relative Abundance	**0.64**	**0.04**	**0.01**	**0.06**	**0.07**	**0.06**	**0.05**	**0.03**	**0.04**	**0.002**	

[a] PEMA – *Peromyscus maniculatus*
PETR – *Peromyscus truei*
PECR – *Peromyscus crinitus*
PEPA – *Perognathus parvus*
DIOR – *Dipodomys ordii*
REMA – *Reithrodontomys megalotis*
NECI – *Neotoma cinerea*
SOVA – *Sorex vagrans*
MIMO – *Microtus montanus*
MEME – *Mephitis mephitis*

[b] The western whiptail (*Cnemidophorus tigris*) was captured in this array as well.
[c] The western fence lizard (*Sceloporus occidentalis*) was captured in this array.
[d] The southern alligator lizard (*Elgaria multicarinata*) was captured in this array.

Table 12. Bat mist net and "H" net capture locations in the John Day Fossil Beds National Monument during 2002 and 2003.

Session#	Date	UTMX	UTMY	Legal	Location
mist01SR	5/30/2002	290780	4933700	T12S.R26E.Sec.18 SE1/4 NE1/16	Rock Cr. Bridge
mist02SR	6/1/2002	290675	4933598	T12S.R26E.Sec.18 SE1/4 NE1/16	Rock Cr. Impoundment
mist03SR	6/2/2002	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist04CL	6/11/2002	703386	4977362	T7S.R19E.Sec.26 SW1/4 SW1/16	1st Stock Pond
mist05CL	6/12/2002	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist06SR	6/25/2002	290675	4933598	T12S.R26E.Sec.18 SE1/4 NE1/16	Rock Cr. Impoundment
mist07SR	6/26/2002	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist08CL	7/15/2002	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist09CL	7/16/2002	703759	4977714	T7S.R19E.Sec.26 SW1/4 SW1/16	2nd Stock Pond
misc14CL	7/17/2002	699800	4976470	T7S.R19E.Sec.32 NE1/4 SW1/16	Clarno Bridge
mist10CL	7/17/2002	699768	4976650	T7S.R19E.Sec.32 NE1/4 SW1/16	JD River-below Clarno
mist11PH	7/22/2002	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist12PH	7/23/2002	715664	4949003	T10S.R20E.Sec.36 NW1/4 NE1/16	Reservoir
mist13PH	7/24/2002	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist14SR	7/31/2002	290780	4933700	T12S.R26E.Sec.18 SE1/4 NE1/16	Rock Cr. Bridge
mist15SR	8/1/2002	290675	4933598	T12S.R26E. Sec.18 SE1/4 NE1/16	Rock Cr. Impoundment
mist16SR	8/5/2002	290556	4934514	T12S.R26E.Sec.7 SE1/4 NE1/16	Lower Field#2
misc15CL	8/6/2002	699800	4976470	T7S.R19E.Sec.32 NE1/4 SW1/16	Clarno Bridge
mist17SR	8/7/2002	290556	4934514	T12S.R26E.Sec.7 SE1/4 NE1/16	Lower Field#2
mist18SR	8/8/2002			Restricted Access	Cave
misc16SR	8/9/2002	290140	4947425	T11S.R26E.Sec.6 NW1/4 NE1/16	Foree Shed
mist19CL	8/17/2002	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist20PH	8/19/2002	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist21CL	8/24/2002	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist22CL	8/26/2002	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist23PH	9/4/2002	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist24SR	9/5/2002	289857	4938723	T11S.R12E.Sec.31 NW1/4 NE1/16	Little Goose Rock
mist25SR	9/9/2002	289857	4938723	T11S.R12E.Sec.31 NW1/4 SE1/16	Little Goose Rock
mist26CL	6/16/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist27CL	6/17/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist28CL	6/19/2003	703759	4977714	T7S.R19E.Sec.26 SW1/4 SW1/16	2nd Stock Pond
mist29PH	6/22/2003	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist30PH	6/26/2003	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist31SR	6/28/2003	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist32SR	7/1/2003	290675	4933598	T12S.R26E. Sec.18 SE1/4 NE1/16	Rock Cr. Impoundment
mist33CL	7/3/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist34CLa	7/4/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist34CLb	7/4/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist35SR	7/5/2003	290440	4945115	T11S.R26E.Sec.7 NW1/4 SE1/4	Cathedral Rock
mist36SR	7/6/2003	289857	4938723	T11S.R12E.Sec.31 NW1/4 SE1/16	Little Goose Rock
mist37CL	7/7/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist38SR	7/8/2003	290440	4945115	T11S.R26E.Sec.7 NW1/4 SE1/4	Cathedral Rock
mist39SR	7/9/2003	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist40CL	7/9/2003	703759	4977714	T7S.R19E.Sec.26 SW1/4 SW1/16	2nd Stock Pond
mist41CL	7/14/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place

Session#	Date	UTMX	UTMY	Legal	Location
mist42CL	7/16/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist43CL	7/17/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist44SR	7/19/2003	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist45CLa	7/23/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist45CLb	7/23/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist46CL	7/28/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist47PHa	7/29/2003	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist47PHb	7/29/2003	718039	4948023	T10S.R21E.Sec.31 SE1/4 NW1/16	Picnic Area
mist48SR	7/30/2003	289857	4938723	T11S.R12E.Sec.31 NW1/4 SE1/16	Little Goose Rock
mist49CLa	8/2/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist49CLb	8/2/2003	700380	4975515	T8S.R19E.Sec.4 NW1/4 NW1/4	Lower Perkins Rd.
mist50SR	8/3/2003	291203	4959041	T9S. R26E. Sec. 30 SW1/4 SE1/4	N. Fork/Kimberly
mist51CL	8/4/2003	700380	4975515	T8S.R19E.Sec.4 NW1/4 NW1/4	Lower Perkins Rd.
mist52CL	8/5/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist53CL	8/15/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist54CLa	8/16/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist54CLb	8/16/2003	700380	4975515	T8S.R19E.Sec.4 NW1/4 NW1/4	Lower Perkins Rd.
mist55CL	8/18/2003	703270	4977046	T7S.R19E.Sec.34 NE1/4 SW1/4	Hancock Field Station
mist56SR	8/19/2003	290440	4945115	T11S.R26E.Sec.7 NW1/4 SE1/4	Cathedral Rock
mist57CLa	8/21/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist57CLb	8/21/2003	700380	4975515	T8S.R19E.Sec.4 NW1/4 NW1/4	Lower Perkins Rd.
mist58CL	8/25/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist59CLa	8/27/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist59CLb	8/27/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist60CL	8/31/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist61CLa	9/1/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist61CLb	9/1/2003	700380	4975515	T8S.R19E.Sec.4 NW1/4 NW1/4	Lower Perkins Rd.
mist62SR	9/3/2003	290113	4939115	T11S.R12E.Sec.31 NW1/4 NE1/16	Goose Rock
mist63CL	9/11/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist64CL	9/12/2003	702351	4975961	T7S.R19E.Sec.34 SW1/4 SW1/4	Clarno Beaver Ponds
mist65CLa	9/14/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist65CLb	9/14/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist66SR	9/15/2003			Restricted Access	Cave
mist67CLa	9/18/2003	703965	4976114	T7S.R19E.Sec.35 SW1/4 SW1/16	Potter Place
mist67CLb	9/18/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist68CL	9/21/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist69CL	9/24/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs
mist70SR	9/28/1930			Restricted Access	Cave
mist71CL	10/3/2003	699850	4976410	T7S.R19E.Sec.32 SE1/4 NE1/4	Clarno Cliffs

[a] The two-letter codes following the session number refer to the monument unit:
SR – Sheep Rock; CL – Clarno; PH – Painted

Table 13. Bat capture results and relative abundance from the mist net and hand capture sessions during 2002 and 2003 in the John Day Fossil Beds National Monument.

	Species[a]														
Session#	**YU/LU**	**MYLU**	**MYYU**	**MYCI**	**MYVO**	**MYCA**	**MYTH**	**MYEV**	**ANPA**	**COTO**	**PIHE**	**LANO**	**LACI**	**EPFU**	**EUMA**	**Total**
mist01SR	1															**1**
mist02SR	9															**9**
mist03SR	2								3							**5**
mist04CL																**0**
mist05CL	2								1			2				**5**
mist06SR	11											3		1		**15**
mist07SR	23															**23**
mist08CL		1	3			1			7		5			3		**20**
mist09CL					1						6					**7**
misc14CL			9													**9**
mist10CL	1															**1**
mist11PH			1									1	1			**3**
mist12PH	2												1			**3**
mist13PH						1							1			**2**
mist14SR		2	1								1					**4**
mist15SR		1	24				1						1			**27**
mist16SR		2	1													**3**
misc15CL			6													**6**
mist17SR																**0**
mist18SR				3					2	2						**7**
misc16SR		2														**2**
mist19CL			2		1				9	1	3					**16**
mist20PH					1											**1**
mist21CL			1	5	1	1		1	2		5			1		**17**
mist22CL			1								1	1				**3**
mist23PH																**0**
mist24SR			1	1												**2**
mist25SR		1	1													**2**
mist26CL		1	1	1							1	1		1		**6**
mist27CL		1	4									3				**8**
mist28CL									3							**3**
mist29PH			1			1			1							**3**
mist30PH		2	4									2				**8**
mist31SR	1	2	3						5			1		1		**13**
mist32SR		1	3	1							1		1			**7**
mist33CL																**0**
mist34CLa			1						1		3					**5**
mist34CLb																**0**
mist35SR		6										1	1			**8**

Session#	YU/LU	MYLU	MYYU	MYCI	MYVO	MYCA	MYTH	MYEV	ANPA	COTO	PIHE	LANO	LACI	EPFU	EUMA	Total
mist36SR		1	5													**6**
mist37CL			6	1					2		2	1	1			**13**
mist38SR		3														**3**
mist39SR		1		1												**2**
mist40CL			1						2							**3**
mist41CL				2					3				1			**6**
mist42CL			6								2			1		**9**
mist43CL					1				5		2		1			**9**
mist44SR		4	4						4							**12**
mist45CLa			4	2					12		2		1			**21**
mist45CLb		1	8						3				1			**13**
mist46CL				2					4		4					**10**
mist47PHa									3							**3**
mist47PHb																**0**
mist48SR		18	6				1		1							**26**
mist49CLa			1	2	1				2		3					**9**
mist49CLb			4	1												**5**
mist50SR		17	9										1			**27**
mist51CL			1													**1**
mist52CL			2	2					1		3					**8**
mist53CL			2	2												**4**
mist54CLa				1												**1**
mist54CLb																**0**
mist55CL			1	1	1							1				**4**
mist56SR		3	3	1	1											**8**
mist57CLa			3	2					1		1	2	5	1		**15**
mist57CLb			2													**2**
mist58CL																**0**
mist59CLa			4		1						1					**6**
mist59CLb									2						1	**3**
mist60CL			2									2				**4**
mist61CLa			1													**1**
mist61CLb		4	7													**11**
mist62SR		3	1						5			2	1			**12**
mist63CL			1													**1**
mist64CL			3	1		2										**6**
mist65CLa				1												**1**
mist65CLb																**0**
mist66SR				2					3	24					1	**30**
mist67CLa			3	3	1				1		4	2	1			**15**
mist67CLb													1			**1**
mist68CL																**0**
mist69CL															1	**1**
mist70SR				10						16				2		**28**
mist71CL												1				**1**

Session#	YU/LU	MYLU	MYYU	MYCI	MYVO	MYCA	MYTH	MYEV	ANPA	COTO	PIHE	LANO	LACI	EPFU	EUMA	Total
Total	**52**	**77**	**158**	**48**	**10**	**6**	**2**	**1**	**88**	**43**	**50**	**26**	**20**	**11**	**3**	**595**
Relative Abundance	**0.09**	**0.13**	**0.27**	**0.08**	**0.02**	**0.01**	**0.003**	**0.002**	**0.15**	**0.07**	**0.08**	**0.04**	**0.03**	**0.02**	**0.01**	

[a] YU/LU – Undifferentiated *Myotis yumanensis*/ *Myotis lucifugus*
MYLU – *Myotis lucifugus*
MYYU – *Myotis yumanensis*
MYCI – *Myotis ciliolabrum*
MYVO – *Myotis volans*
MYCA - *Myotic califonricus*
MYTH – *Myotis thysanodes*
MYEV – *Myotis evotis*
ANPA – *Antrozous pallidus*
COTO – *Corynorhinus townsendii*
PIHE - *Pipistrellus hesperus*
LANO – *Lasionycteris noctivagans*
LACI – *Lasiurus cinereus*
EPFU – *Eptesicus fuscus*
EUMA-*Euderma maculatum*

Table 14. *Anabat* recording session locations and number of species confirmed during each session. Recordings obtained from hand-released bats are included in the species total.

Date	Unit	Location	UTM X	UTM Y	Species Confirmed
020715	CL	Potter Place	703965	4976114	6
020716	CL	2nd Stock Pond	703725	4977700	5
020717	CL	John Day River	699750	4976725	5
020722	PH	Picnic Area	718039	4948023	4
020723	PH	Reservoir	716000	4949000	4
020724	PH	Picnic Area	718039	4948023	5
020731	SR	Rock Cr. Bridge	290780	4933700	4
020801	SR	Rock Cr. Impoundment	290675	4933598	4
020801	SR	Foree Vehicle Shed	290140	4947425	1
020806	CL	Clarno Bridge	699800	4976470	4
020807	SR	Lower Field #2	290556	4934514	6
020808	SR	Cave			4
020817	CL	Potter Place	703965	4976114	7
020819	PH	Picnic Area	718039	4948023	6
020824	CL	Potter Place	703965	4976114	11
020827	CL	Clarno Cliffs	700000	4976250	6
020901	CL	Clarno Cliffs	700000	4976250	4
020909	SR	Little Goose Rock	289857	4938723	7

Table 15. The list of reptiles and amphibians that are expected or possibly may occur in or adjacent to the John Day Fossil Beds National Monument and their status during the 2002-2003 vertebrate inventory.

Genus	Species	Reptiles	Expected	Confirmed
Sceloporus	*occidentalis*	Western Fence Lizard	1	1
Sceloporus	*graciosus*	Sagebrush Lizard	0	0
Uta	*stansburiana*	Common Side-blotched Lizard	1	1
Phrynosoma	*occidentalis*	Desert Horned Lizard	0	0
Phrynosoma	*douglasi*	Pigmy Short-horned Lizard	1	0
Eumeces	*skiltonianus*	Western Skink	1	1
Cnemidophorus	*tigris*	Western Whiptail	1	1
Elgaria	*multicarinata*	Southern Alligator Lizard	1	1
Charina	*bottae*	Rubber Boa	1	0
Coluber	*constrictor*	Racer	1	1
Masticophus	*taeniatus*	Striped Whipsnake	1	1
Pituophis	*cataenifer*	Gopher Snake	1	1
Thamnophis	*sirtalis*	Common Garter Snake	1	1
Thamnophis	*elegans*	Western Terrestrial Gartern Snake	1	1
Hypsiglena	*torquata*	Night Snake	1	1
Crotalus	*viridis*	Western Rattlesnake	1	1
		Total Reptiles	**14**	**12**
Genus	**Species**	**Amphibians**	**Expected**	**Confirmed**
Rana	*catesbeiana*	Bullfrog	1	1
Ambystoma	*macrodactylum*	Long-toed Salamander	1	1
Hyla	*regilla*	Pacific Tree Frog	1	1
Rana	*luteiventris*	Spotted Frog	0	0
Spea	*intermontana*	Great Basin Spadefoot Toad	1	1
Bufo	*boreas*	Western Toad	1	1
		Total Amphibians	**5**	**5**
		Total Reptiles and Amphibians	**19**	**17**
		Total % Confirmed		**0.89**

Table 16. Locations and dates of selected amphibian and reptile species of interest observed in the John Day Fossil Beds National Monument during the 2002-2003 vertebrate inventory.

Species	Date	UTMX	UTMY	Unit	Location
Western Toad	8/20/02	703211	4977052	CL	Hancock Field Station
Western Toad	9/2/02	290195	4947459	SR	Foree House
Western Toad	8/7/03	705175	4976180	CL	Picnic Area
Common Side-blotched Lizard	4/24/02	290746	4947498	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	5/2/02	290814	4947451	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	5/16/02	290771	4947486	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	6/6/02	290978	4947286	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	6/13/02	290832	4947420	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	8/17/02	290729	4947528	SR	Foree restrooms
Common Side-blotched Lizard	8/19/02	290845	4947388	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	8/20/02	290792	4947466	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	9/4/02	290737	4947486	SR	South edge of Foree parking area
Common Side-blotched Lizard	9/4/02	290876	4947357	SR	Dry wash below South Foree ashbeds
Common Side-blotched Lizard	9/5/02	290839	4947389	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	9/11/02	291329	4941087	SR	Blue Basin-Island in Time Trail
Common Side-blotched Lizard	9/24/02	290769	4947475	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	9/24/02	290769	4947475	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	9/24/02	290769	4947475	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	9/25/02	290689	4947499	SR	Foree Picnic Area
Common Side-blotched Lizard	10/7/02	290833	4947401	SR	South Foree-Story in Stone Trail
Common Side-blotched Lizard	6/19/03	292355	4940627	SR	Blue Basin-crest of Overlook Trail
Western Whiptail	5/29/02	290893	4947062	SR	Foree Spring
Western Whiptail	6/13/02	290832	4947420	SR	South Foree-Story in Stone Trail
Western Whiptail	6/13/02	290832	4947420	SR	South Foree-Story in Stone Trail
Western Whiptail	6/14/02	290832	4947420	SR	South Foree-Story in Stone Trail
Western Whiptail	8/19/02	290845	4947388	SR	South Foree-Story in Stone Trail
Western Whiptail	8/23/02	290733	4947484	SR	South edge of Foree parking area
Western Whiptail	9/5/02	290823	4947426	SR	South Foree-Story in Stone Trail
Western Whiptail	9/19/02	290889	4947381	SR	South Foree-Story in Stone Trail
Western Whiptail	9/19/02	290838	4947403	SR	South Foree-Story in Stone Trail
Western Whiptail	9/20/02	290842	4947385	SR	South Foree-Story in Stone Trail
Western Whiptail	9/25/02	290821	4947089	SR	Foree Spring
Western Whiptail	9/25/02	290965	4947050	SR	Foree Spring
Western Whiptail	9/25/02	290965	4947050	SR	Foree Spring
Western Whiptail	6/12/03	290762	4947483	SR	South Foree-Story in Stone Trail
Southern Alligator Lizard	5/29/02	290380	4939847	SR	Hwy 19, near Goose Rock
Southern Alligator Lizard	6/3/02	715656	4947611	PH	Near Leaf Bed Site
Southern Alligator Lizard	8/9/02	290564	4933602	SR	Lower Rock Creek
Southern Alligator Lizard	5/13/03	718326	4947934	SR	Hwy 19, near Cant House
Southern Alligator Lizard	10/17/03	703960	4976133	CL	Hwy 218, near Clarno Picnic Area
Striped Whipsnake	8/12/02	703237	4977166	CL	Hancock Field Station

Species	Date	UTMX	UTMY	Unit	Location
Striped Whipsnake	8/29/02	290389	4939888	SR	Hwy 19, near Goose Rock
Striped Whipsnake	9/25/02	290410	4947150	SR	South Foree
Common Garter Snake	4/2/02	291482	4931715	SR	East end of Picture Gorge
Common Garter Snake	4/2/02	291514	4931752	SR	East end of Picture Gorge
Common Garter Snake	7/22/02	704617	4976387	CL	Hwy 218, by Clarno Picnic Area
Common Garter Snake	7/1/03	290048	4947090	SR	Hwy 19, adjacent to Foree turnoff
Night Snake	7/28/02	703228	4977120	CL	Hancock Field Station
Night Snake	8/14/02	705569	4976193	CL	Hwy 218, east edge of monument
Night Snake	6/12/03	290822	4947413	SR	South Foree-Story in Stone Trail
Night Snake	6/19/03	290021	4946311	SR	Hwy 19, near Foree Area
Night Snake	8/14/03	290562	4933567	SR	Hwy 26, adjacent to lower Rock Creek

Figures

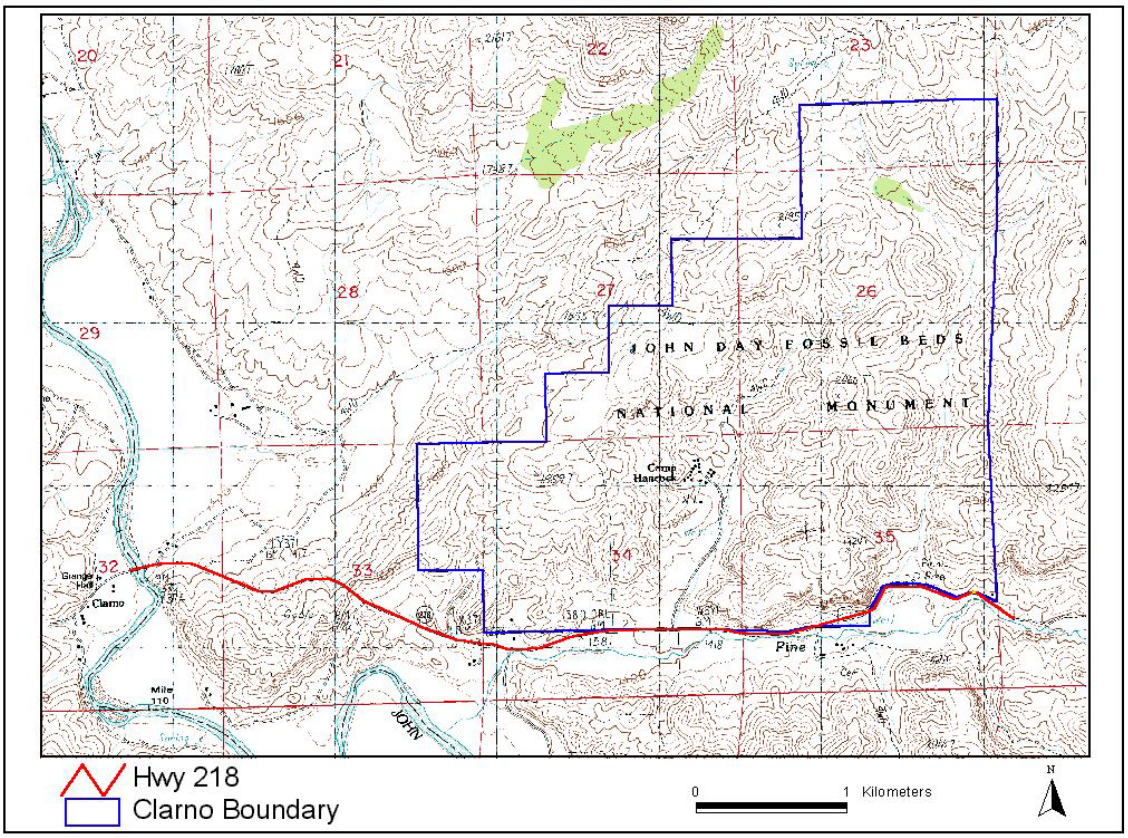

Figure 1. The Clarno Unit of the John Day Fossil Beds National Monument. The monument boundary is shown in blue. The adjacent section of highway 218 important to the 2002-2003 vertebrate inventory is shown in red.

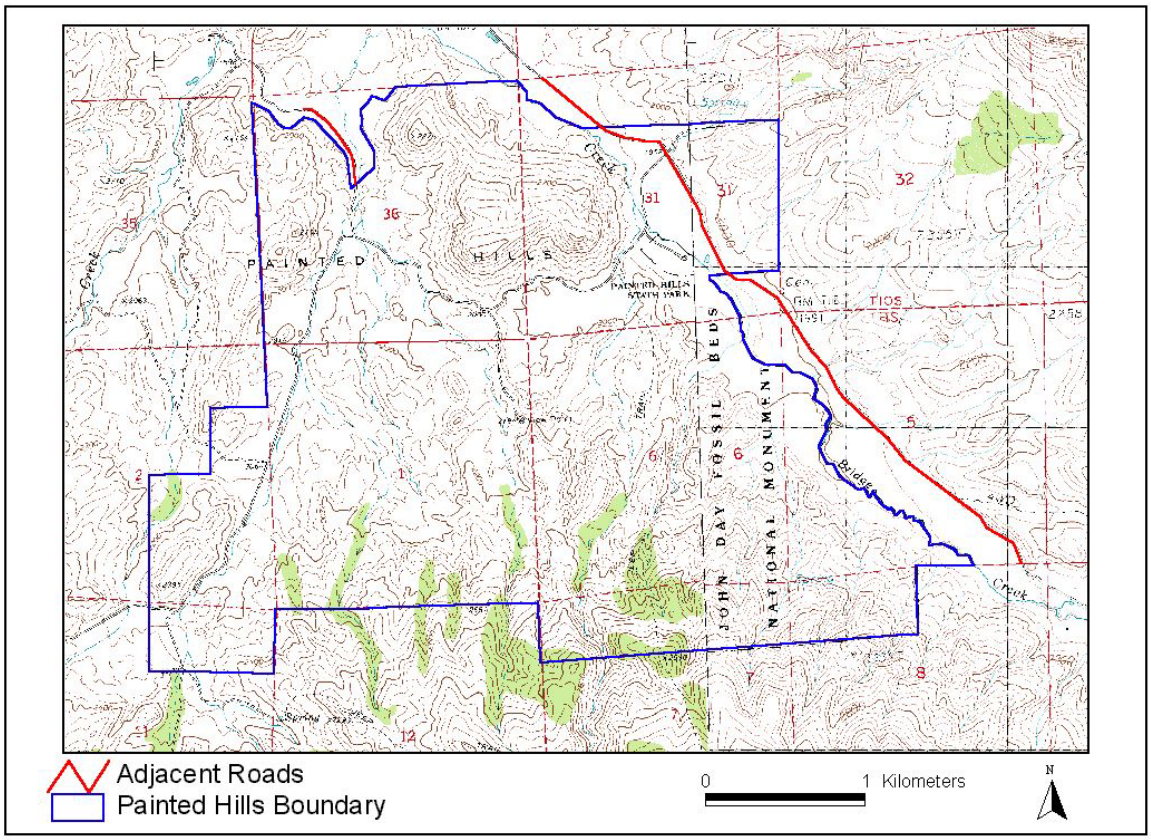

Figure 2. The Painted Hills Unit of the John Day Fossil Beds National Monument. The monument boundary is shown in blue and adjacent roadways important to the 2002 – 2003 inventory are shown in red.

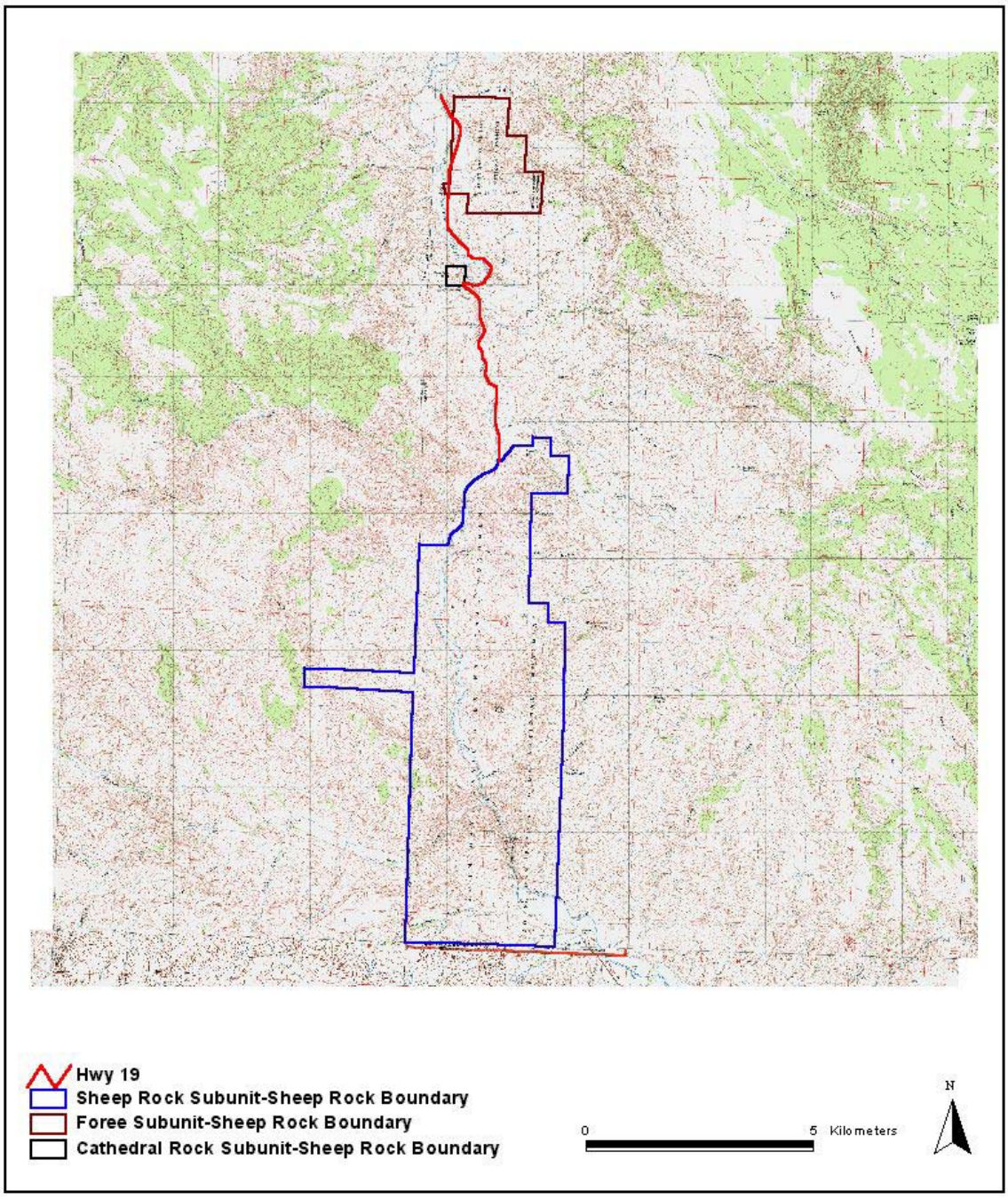

Figure 3. The Sheep Rock Unit of the John Day Fossil Beds National Monument. Each of the three subunits are shown with different colors. The portion of highway 19 important to the 2002-2003 inventory is shown in red.

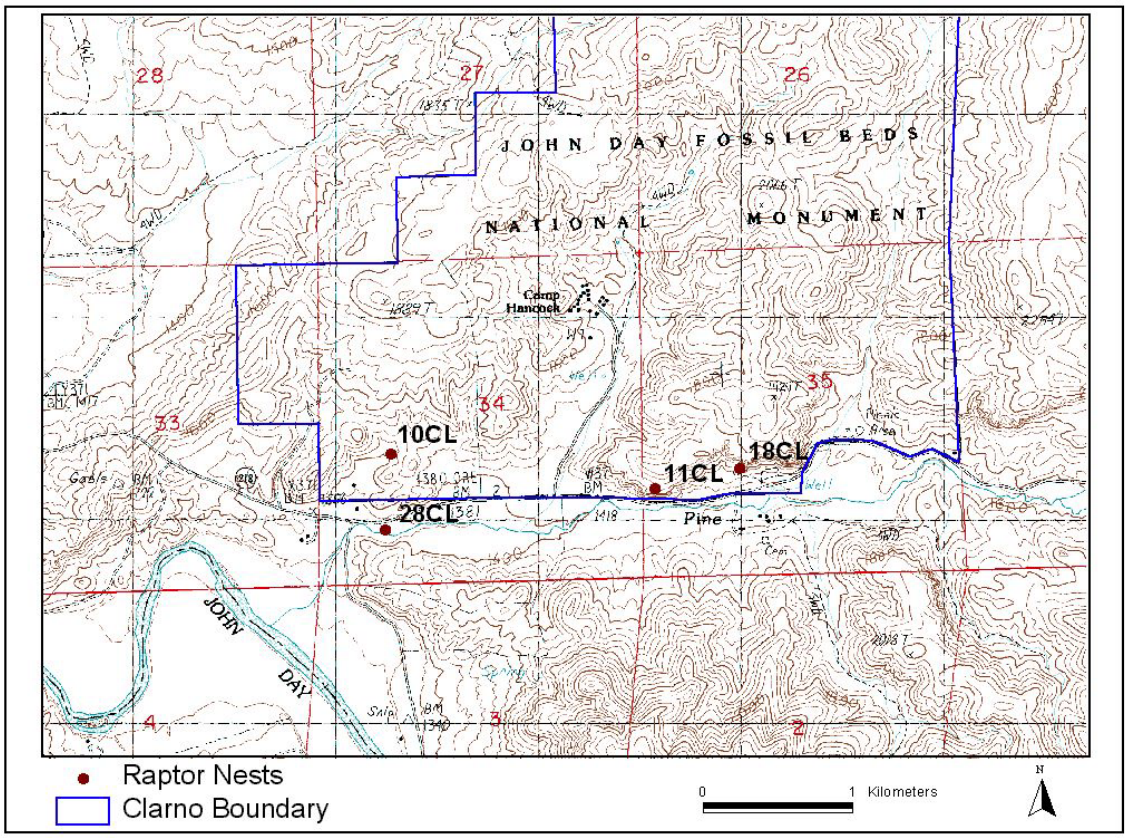

Figure 4. Raptor nest locations in and adjacent to the Clarno Unit of the John Day Fossil Beds National Monument. All four labeled nests were active in 2002 and/or 2003. Additional information for each nest can be found in tables 2 and 3.

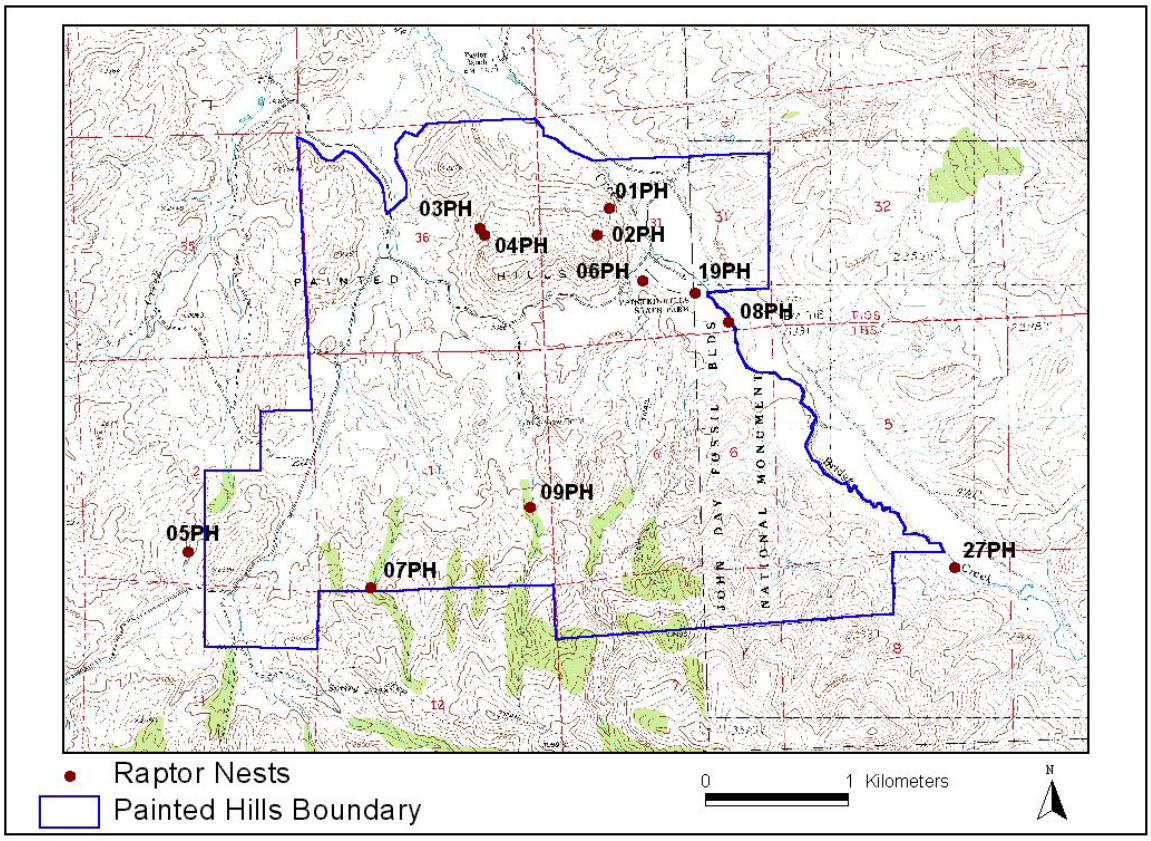

Figure 5. Raptor nest locations in and adjacent to the Painted Hills Unit of the John Day Fossil Beds National Monument. Labeled nests include both active and inactive sites in 2002 and 2003. Additional information for each nest can be found in tables 2 and 3.

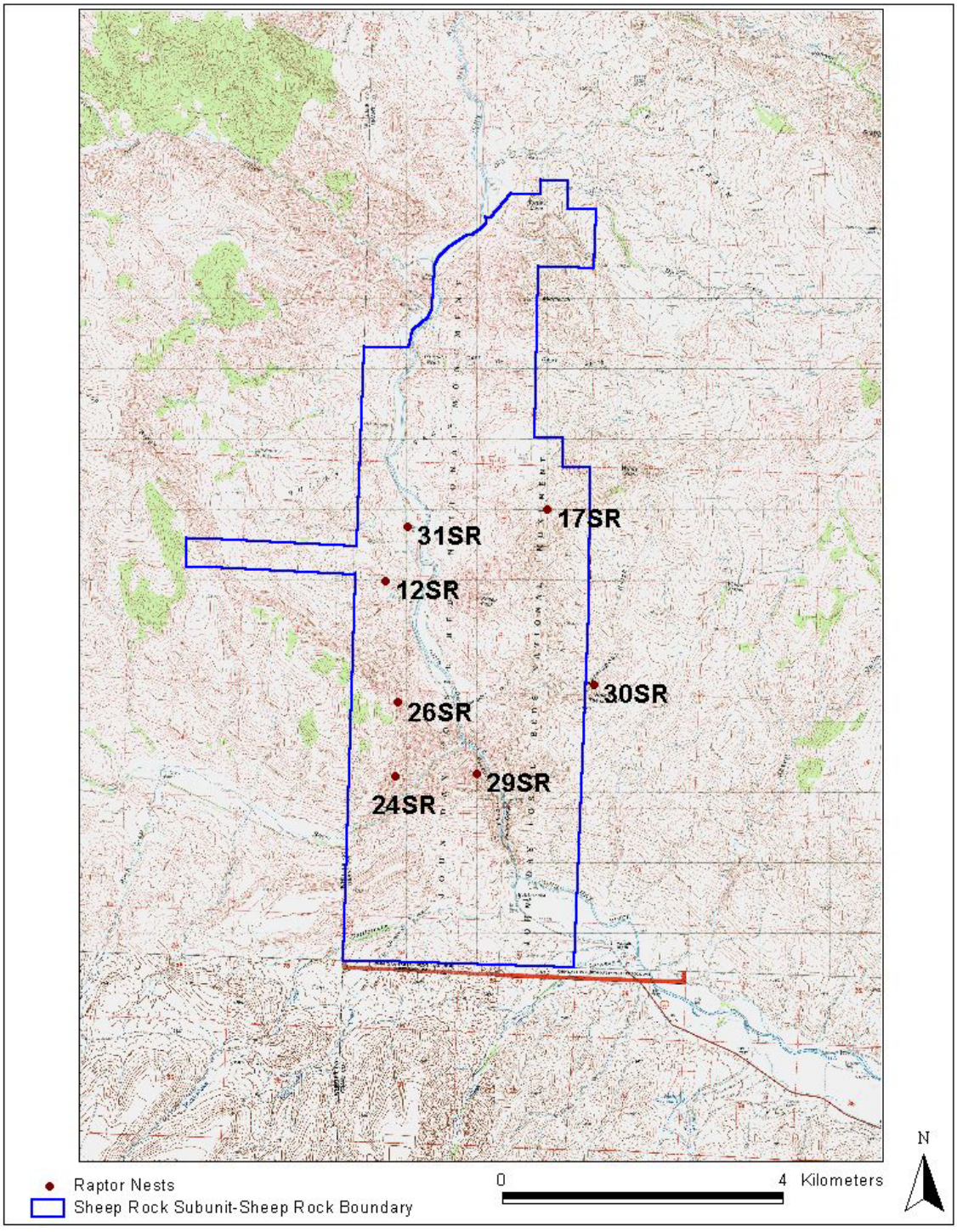

Figure 6. Raptor nest locations in and adjacent to the Sheep Rock portion of the Sheep Rock Unit in the John Day Fossil Beds National Monument. Labeled nests include both active and inactive sites in 2002 and 2003. Additional information for each nest can be found in tables 2 and 3.

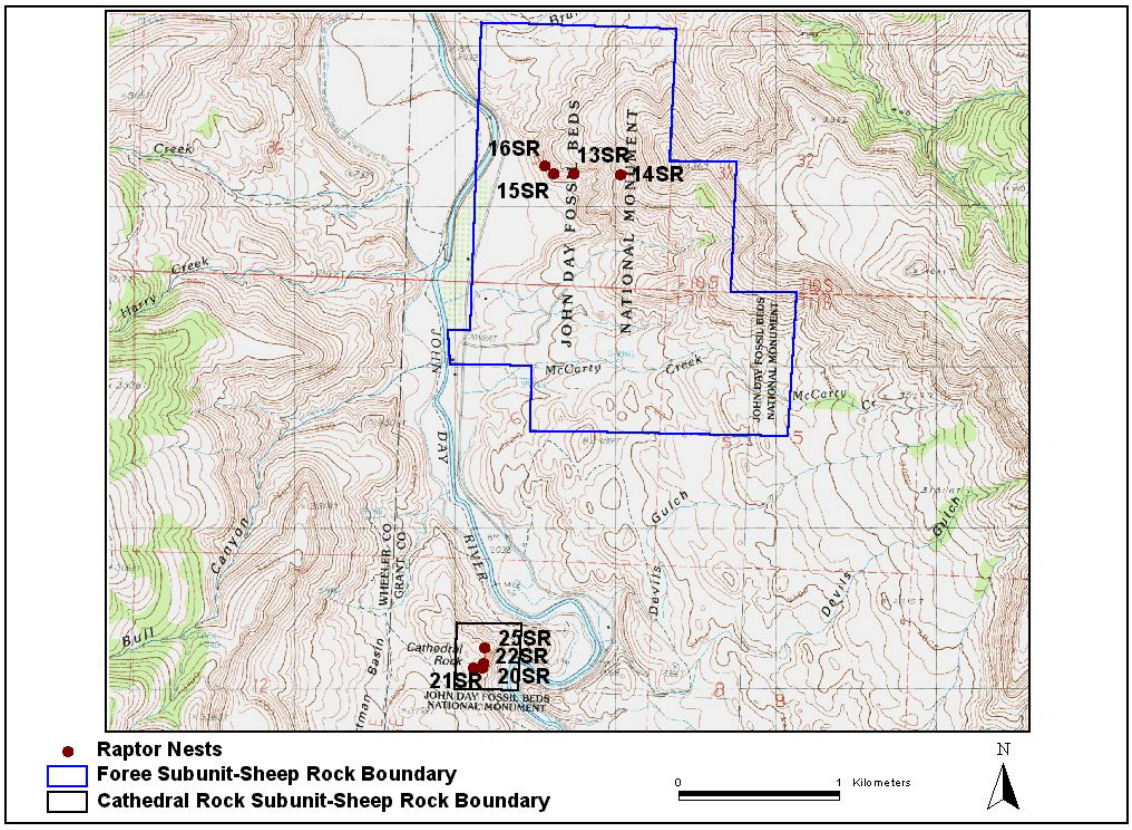

Figure 7. Raptor nest locations in the Foree and Cathedral Rock portions of the Sheep Rock Unit in the John Day Fossil Beds National Monument. Labeled nests include both active and inactive sites in 2002 and 2003. Additional information for each nest can be found in tables 2 and 3.

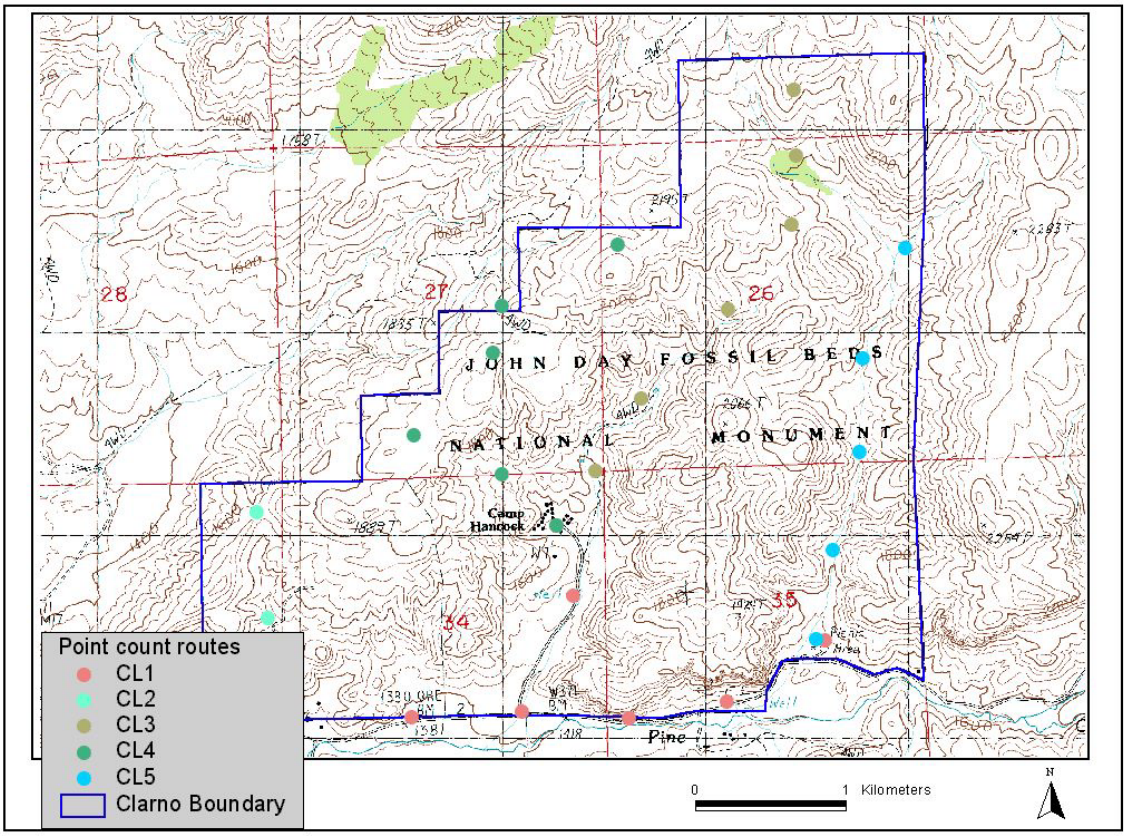

Figure 8. Point count routes completed in the Clarno Unit of the John Day Fossil Beds National Monument in 2002.

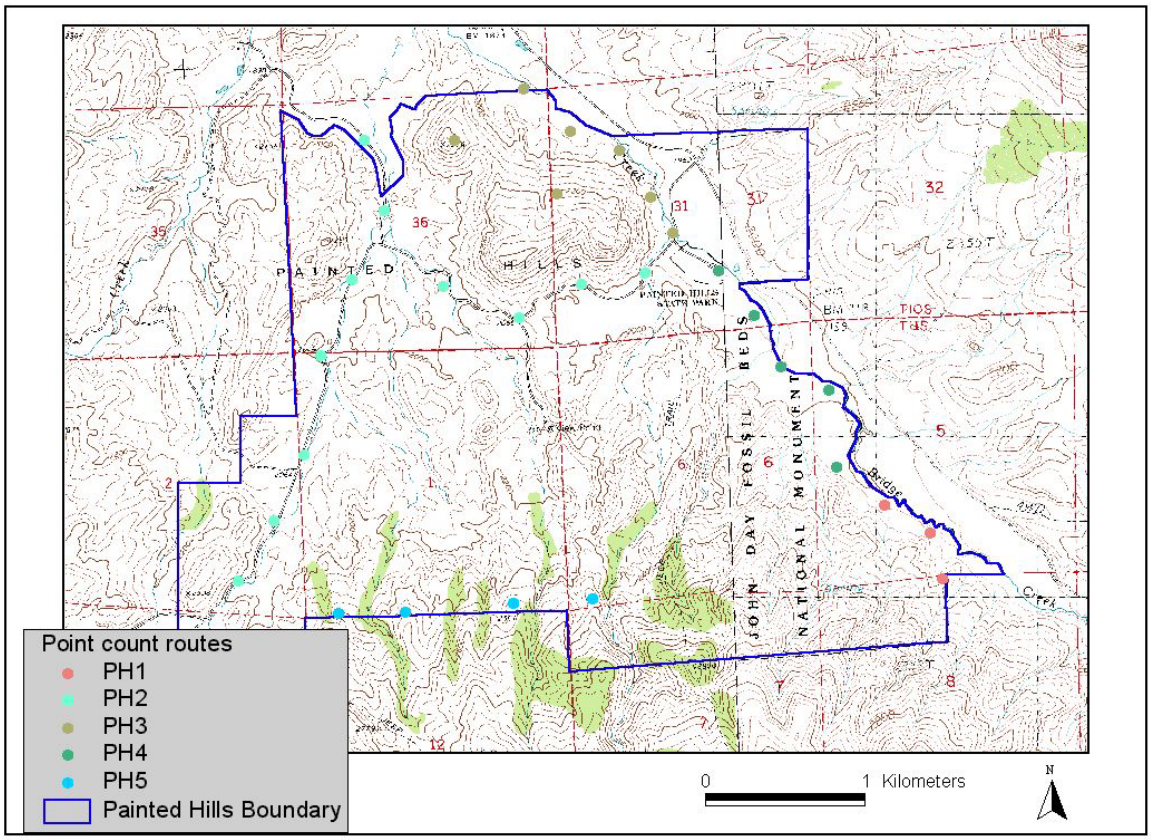

Figure 9. Point count routes in the Painted Hills Unit of the John Day Fossil Beds National Monument in 2002.

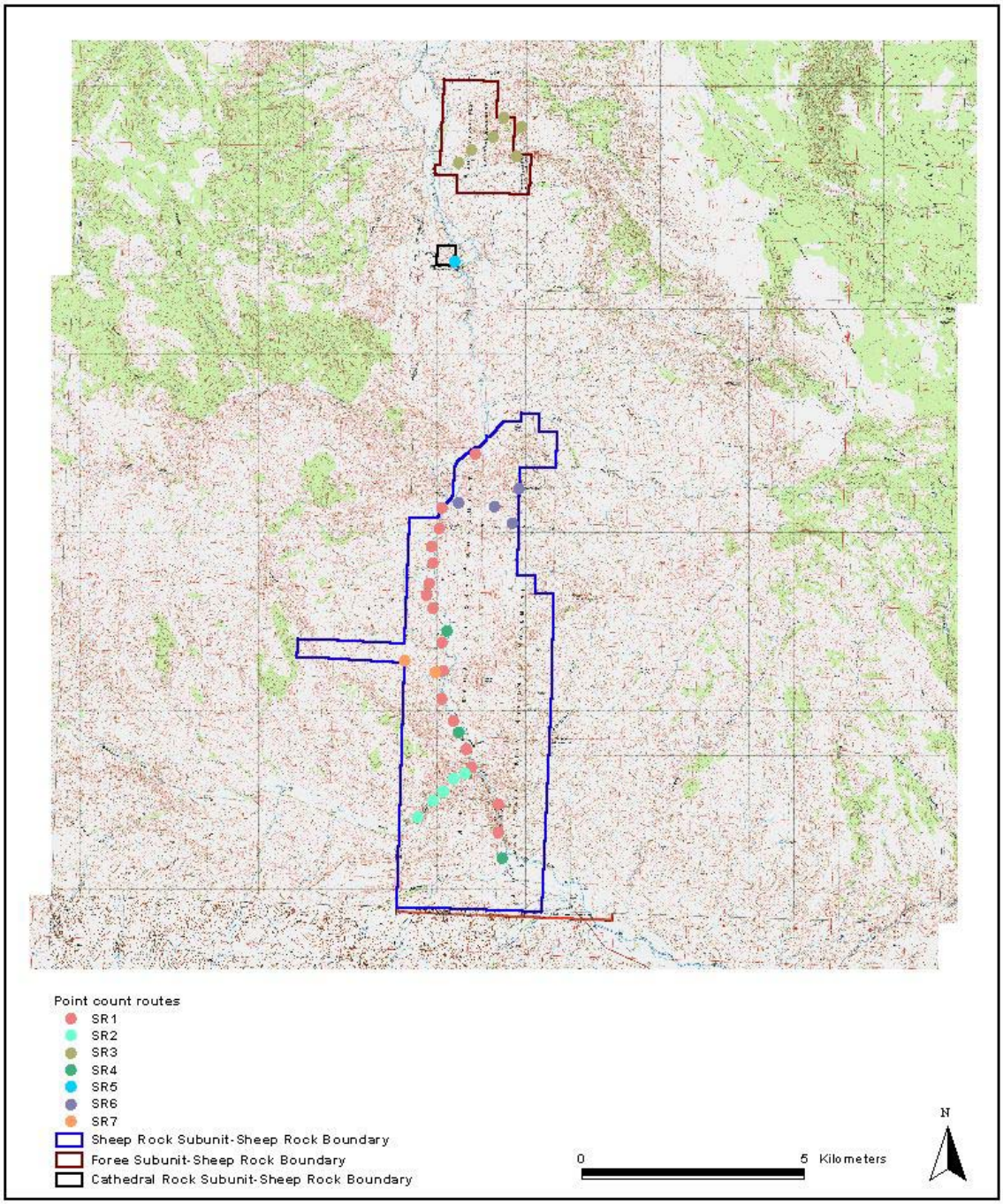

Figure 10. Point count routes in the Sheep Rock Unit of the John Day Fossil Beds National Monument in 2002.

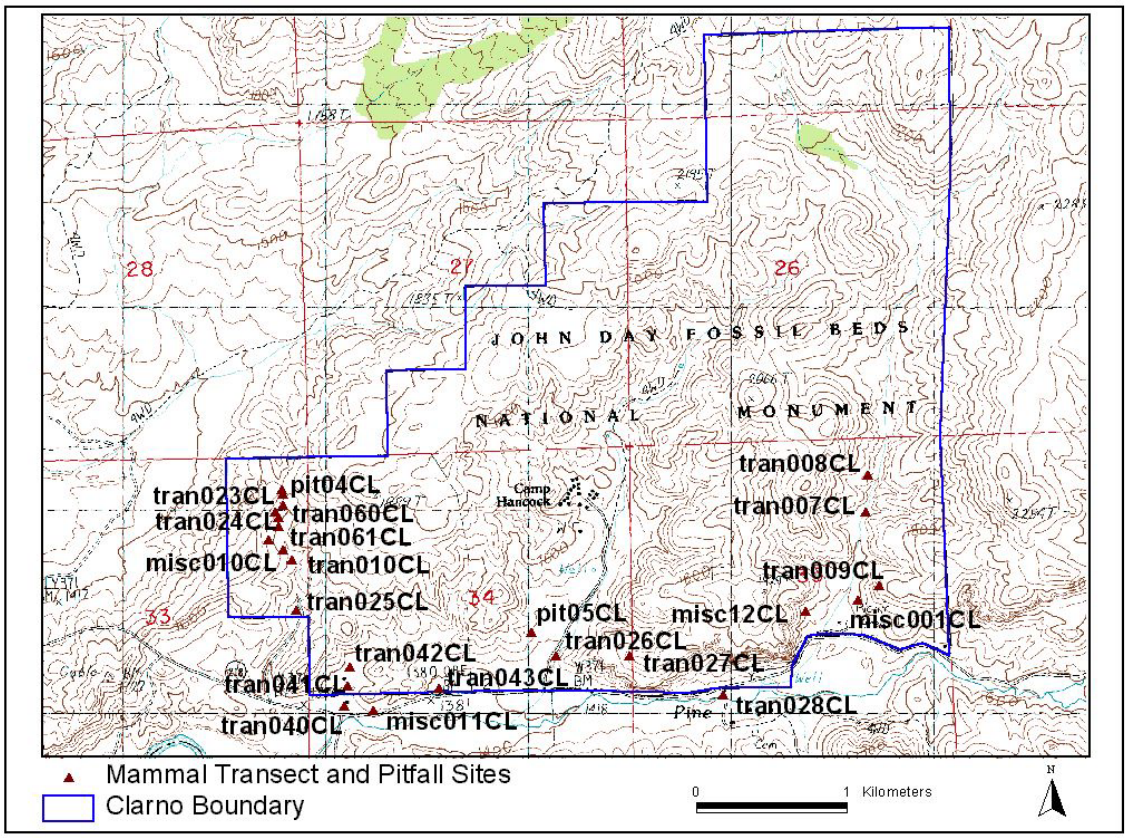

Figure 11. Mammal transects and pitfall arrays employed during 2002 and 2003 in the Clarno Unit of the John Day Fossil Beds National Monument.

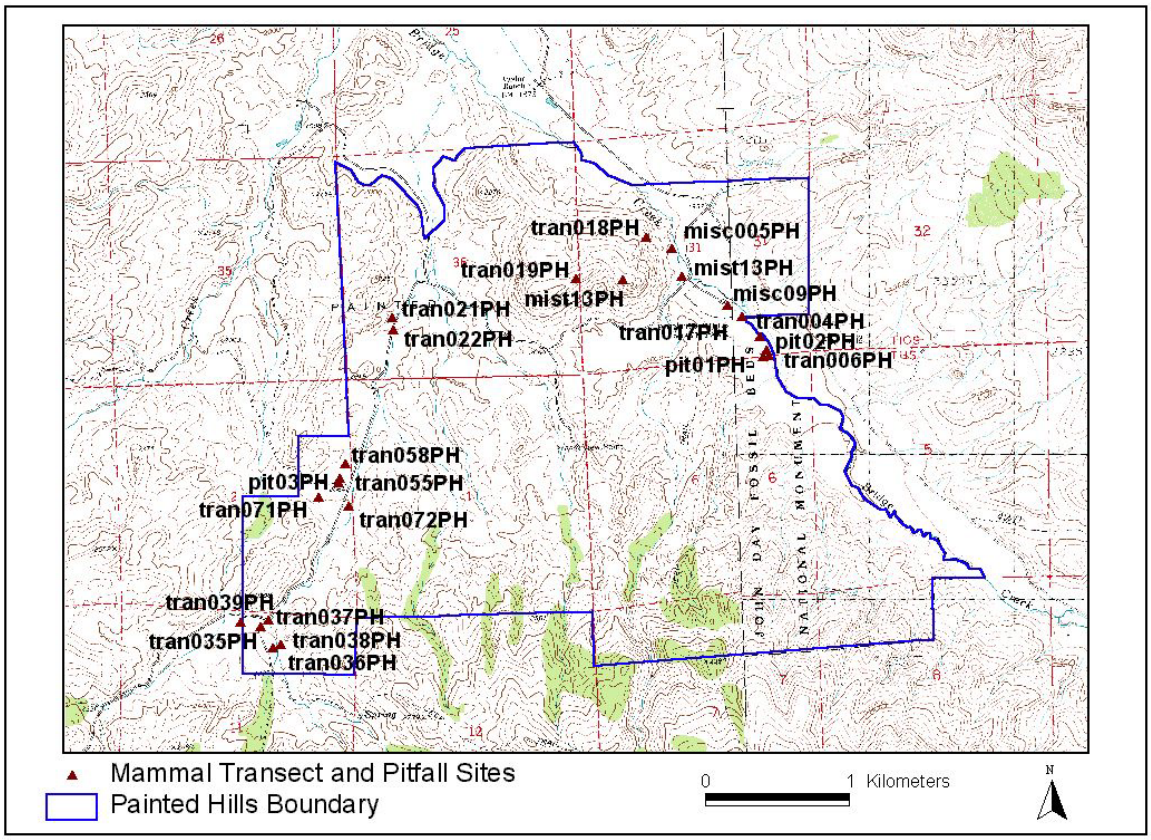

Figure 12. Mammal transects and pitfall arrays employed during 2002 and 2003 in the Painted Hills Unit of the John Day Fossil Beds National Monument.

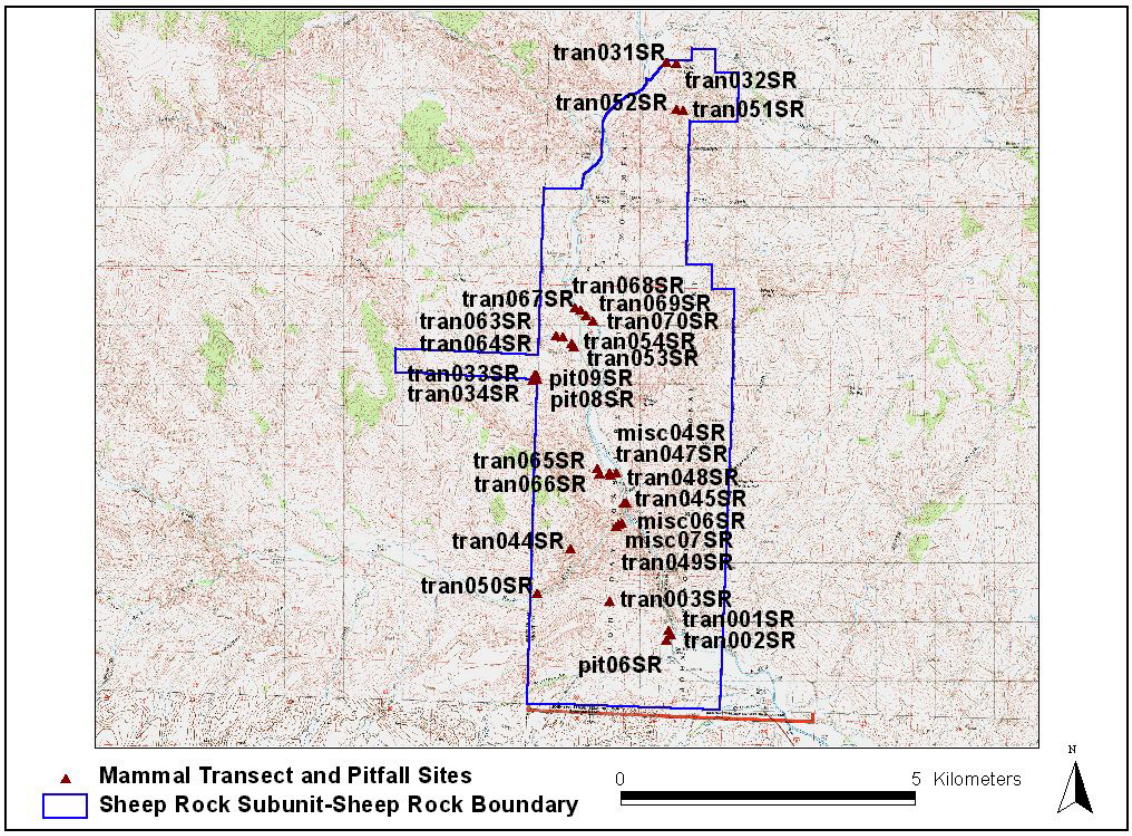

Figure 13. Mammal transects and pitfall arrays employed during 2002 and 2003 in the Sheep Rock portion of the Sheep Rock Unit in the John Day Fossil Beds National Monument.

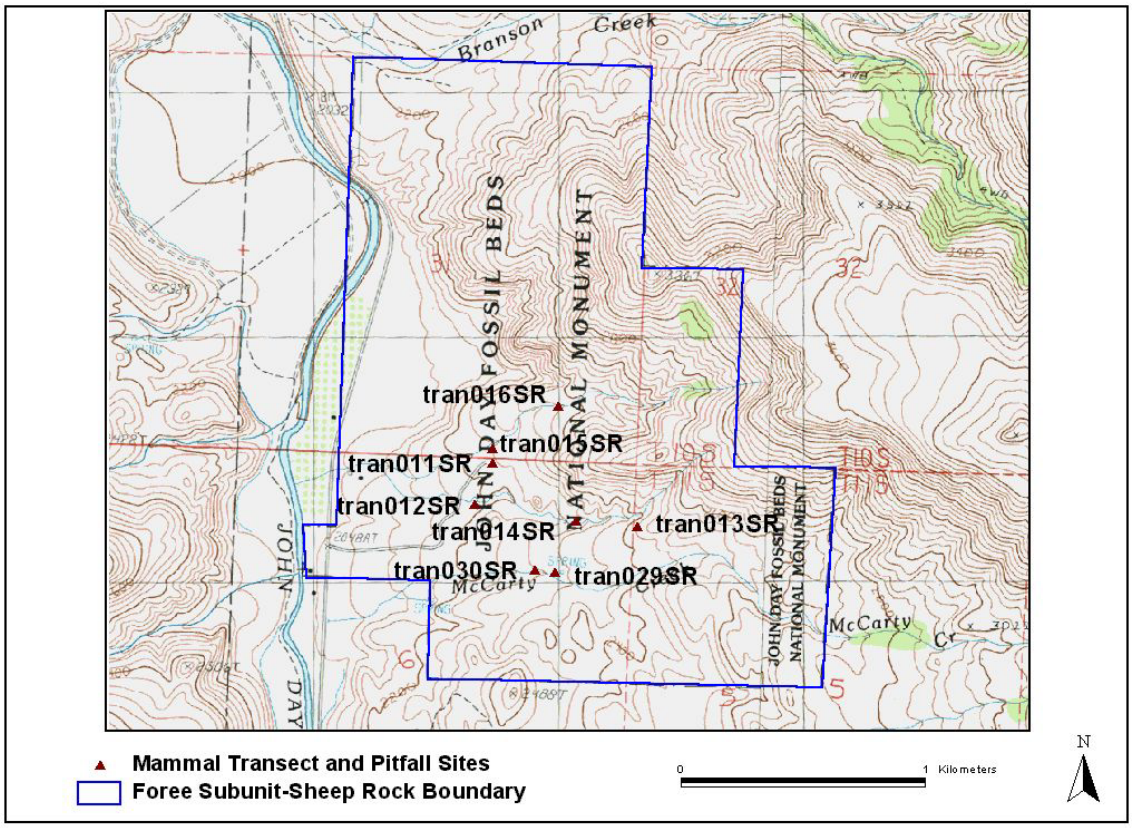

Figure 14. Mammal transects employed during 2002 and 2003 in the Foree portion of the Sheep Rock Unit in the John Day Fossil Beds National Monument.

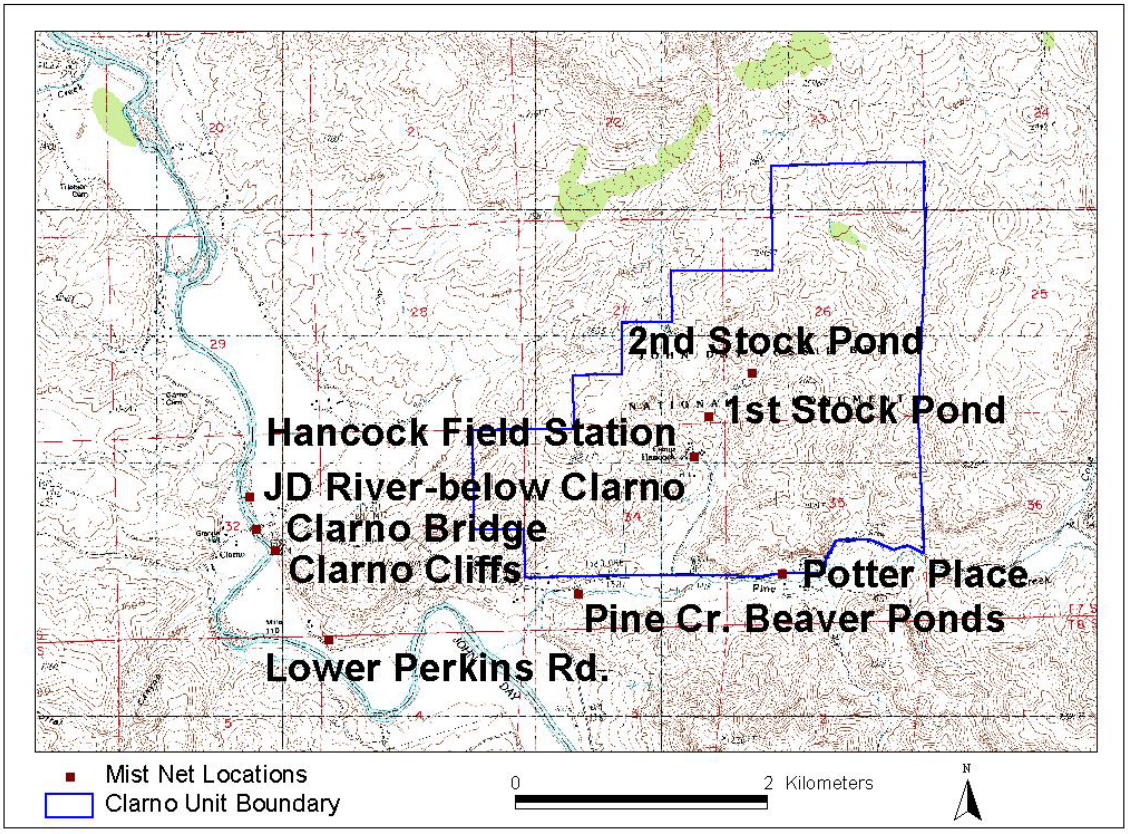

Figure 15. Bat mist net and "H"-net hand capture locations in and adjacent to the Clarno Unit of the John Day Fossil Beds National Monument.

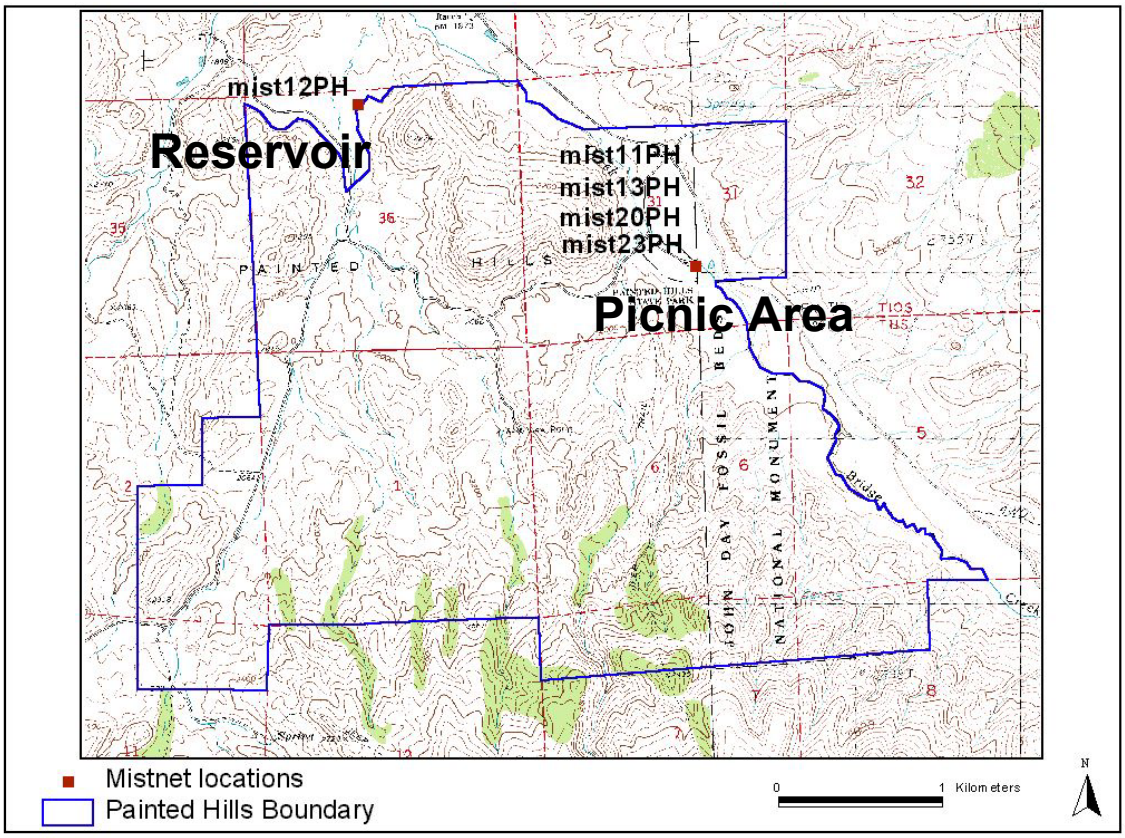

Figure 16. Bat mist net locations in the Painted Hills Unit of the John Day Fossil Beds National Monument.

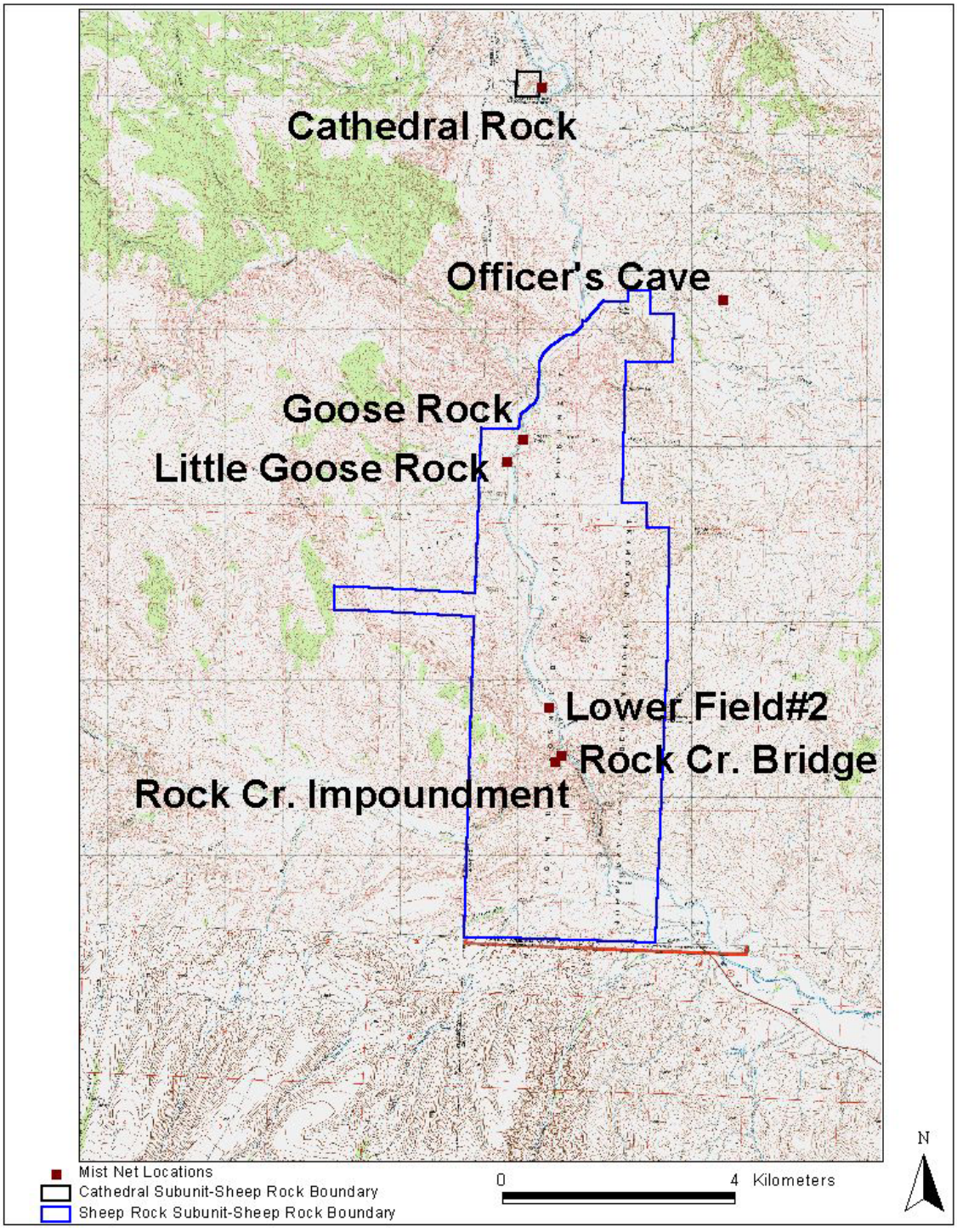

Figure 17. Bat mist net locations in the Sheep Rock portion of the Sheep Rock Unit in the John Day Fossil Beds National Monument.

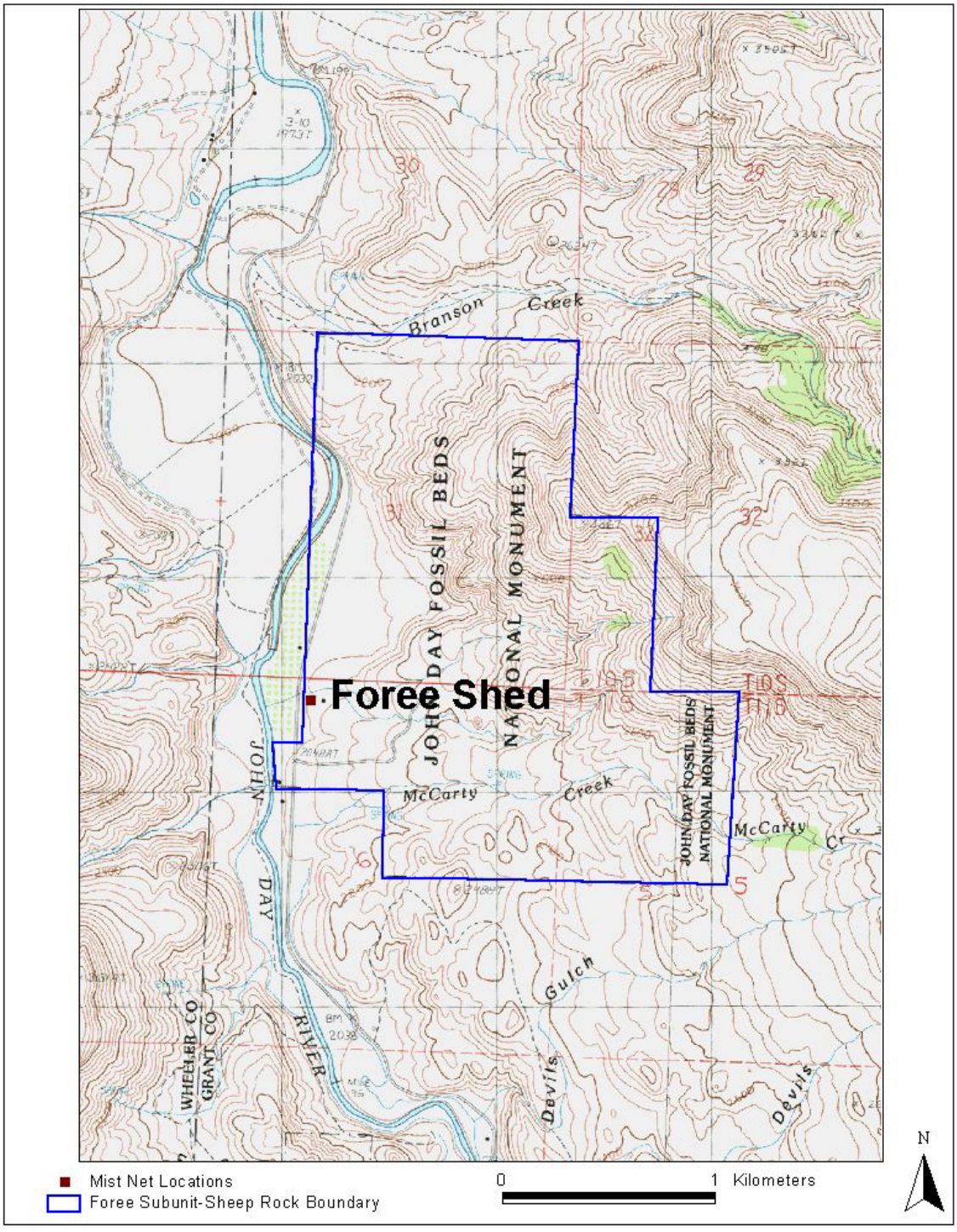

Figure 18. Bat "H"-net capture locations in the Foree portion of the Sheep Rock Unit in the John Day Fossil Beds National Monument.

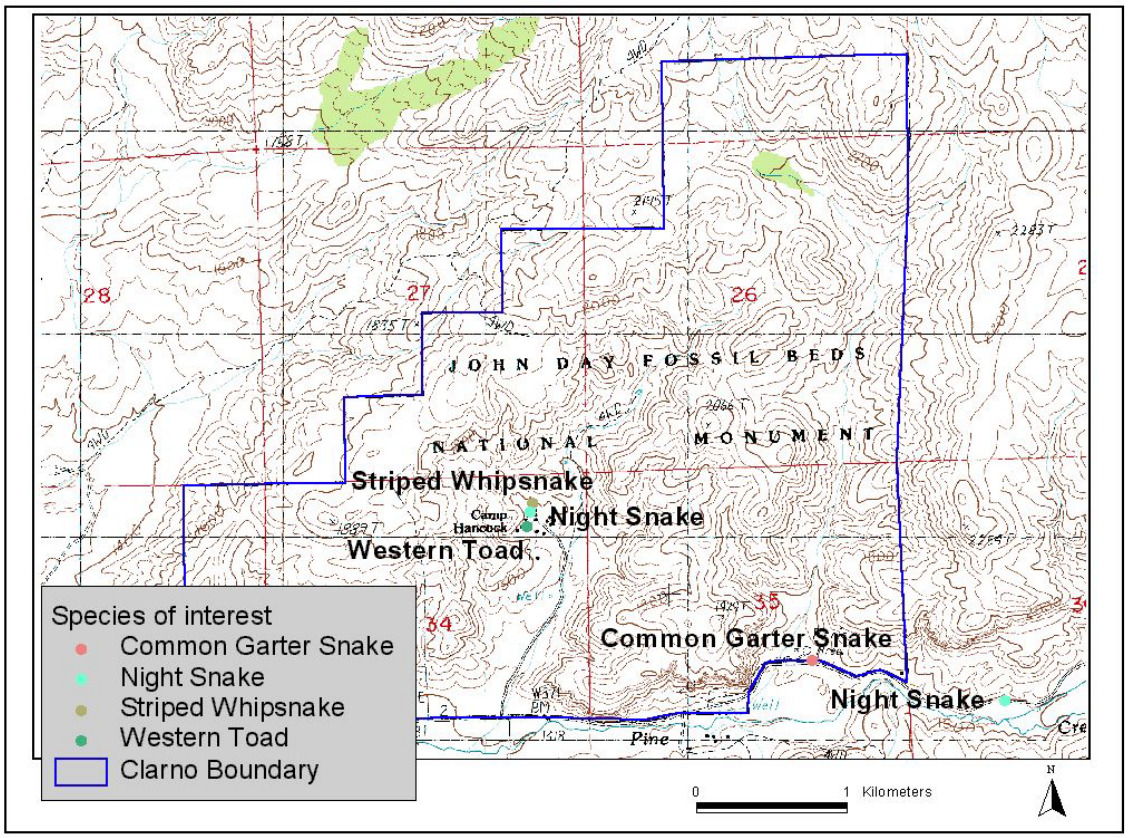

Figure 19. Selected amphibian and reptile species of interest observed during the 2002-2003 herpetological inventory in the Clarno Unit of the John Day Fossil Beds National Monument.

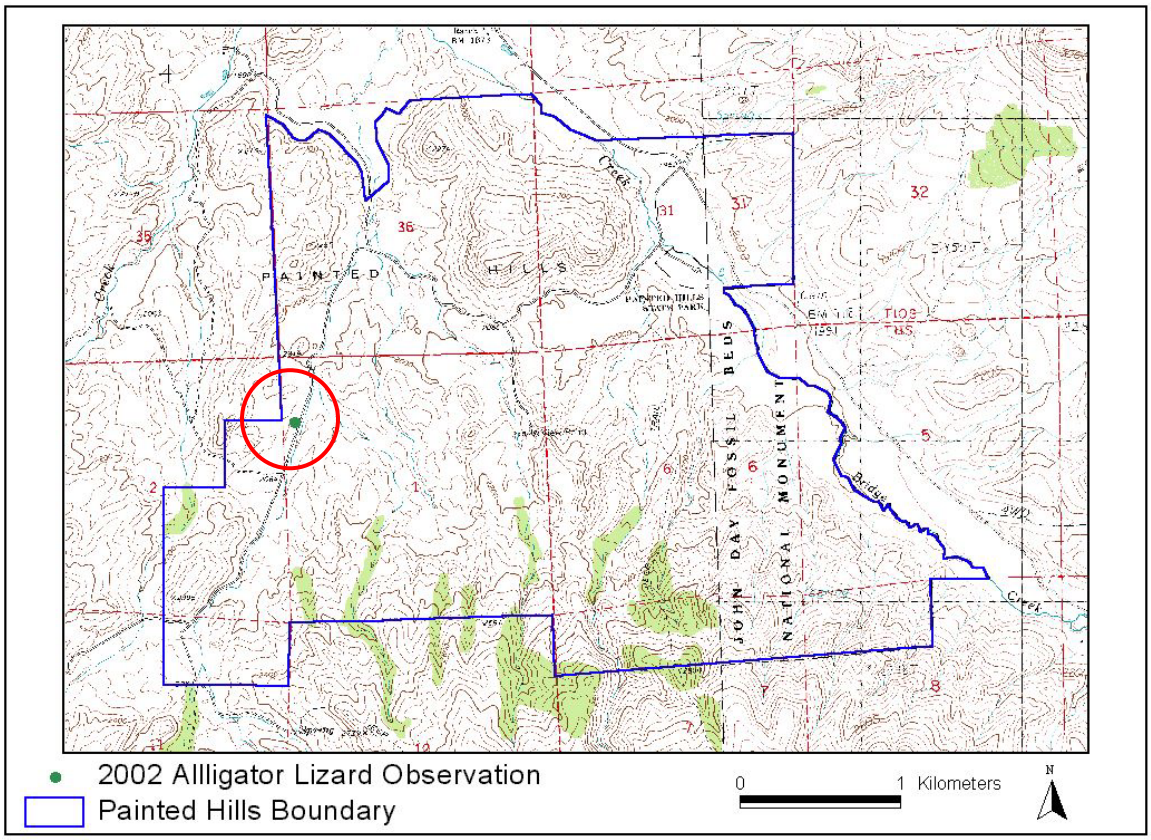

Figure 20. The location of the southern alligator lizard (*Elgaria multicarinata*) observed in the Painted Hills Unit of the John Day Fossil Beds during the 2002-2003 herpetological inventory.

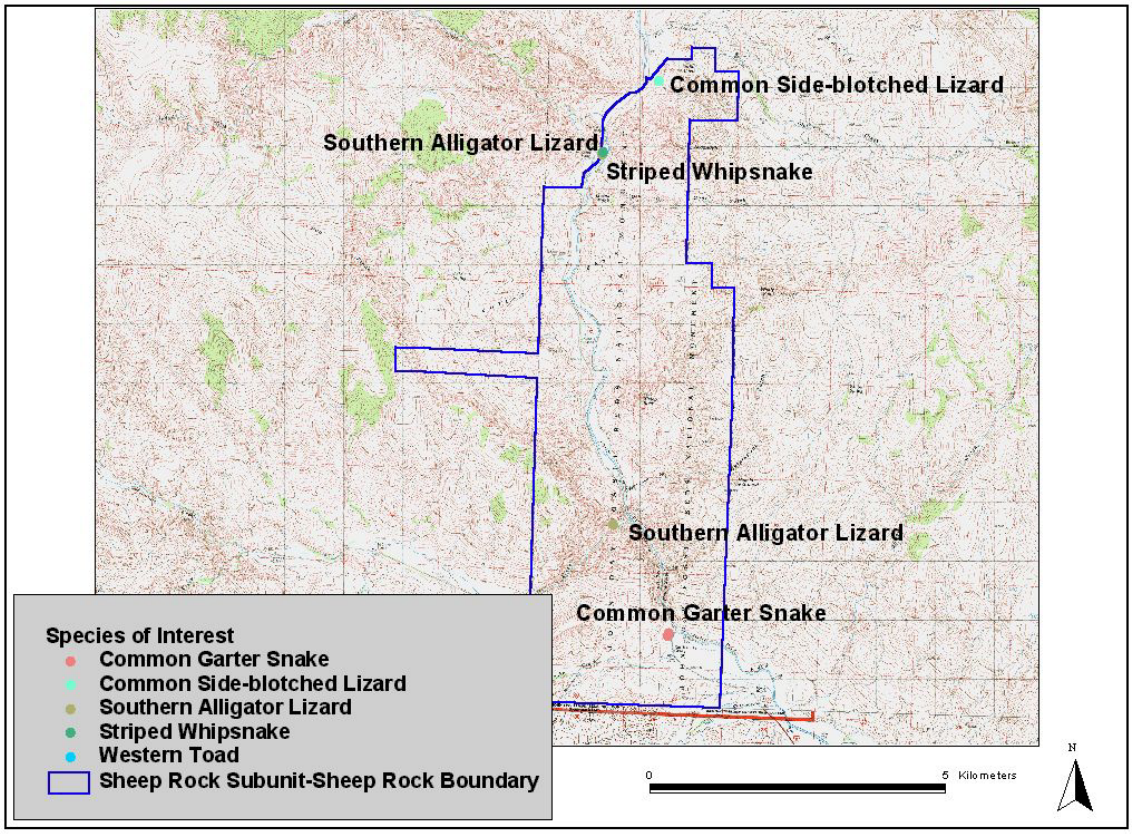

Figure 21. The location of selected amphibian and reptile species of interest in the Sheep Rock portion of the Sheep Rock Unit during the 2002-2003 herpetological inventory. Note that no western toad was observed in this portion of the monument although it is listed on the map legend.

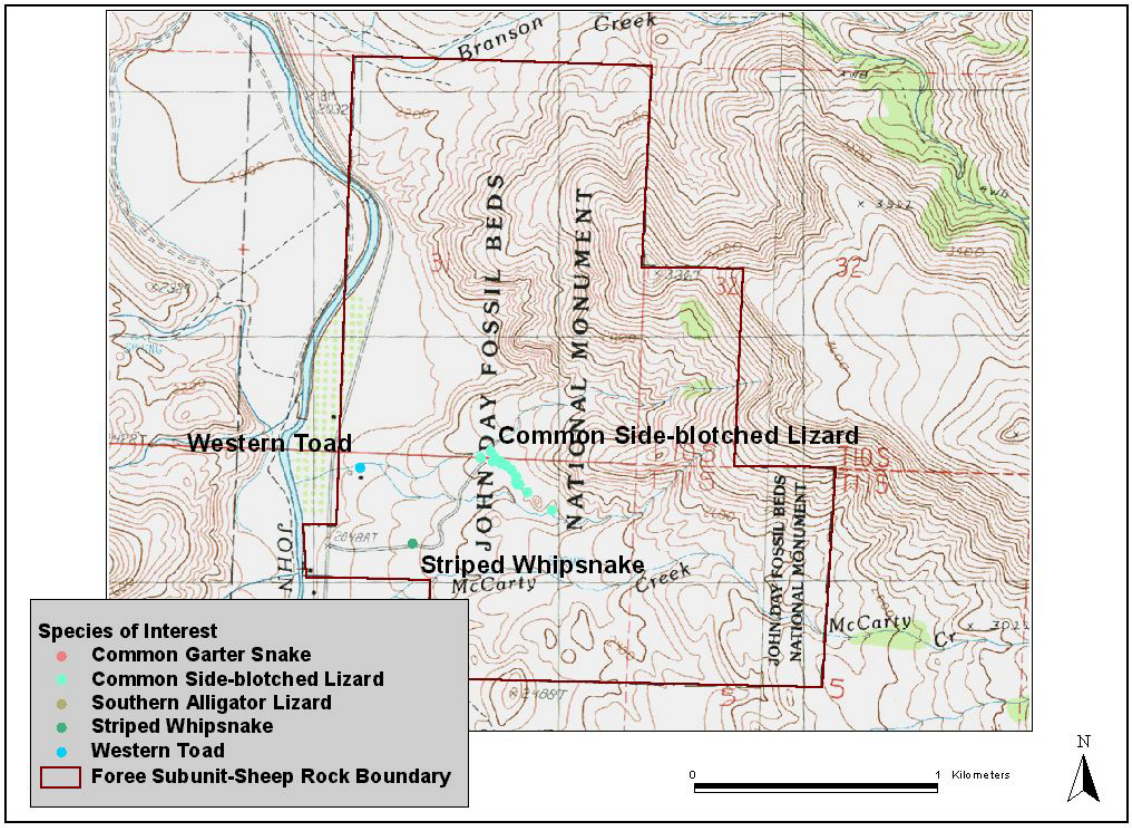

Figure 22. The location of selected amphibian and reptile species in the Foree portion of the Sheep Rock Unit during the 2002-2003 John Day Fossil Beds National Monument herpetological inventory. Note that no common garter snake or southern alligator lizard was observed in this portion of the monument although these species are listed on the map legend.

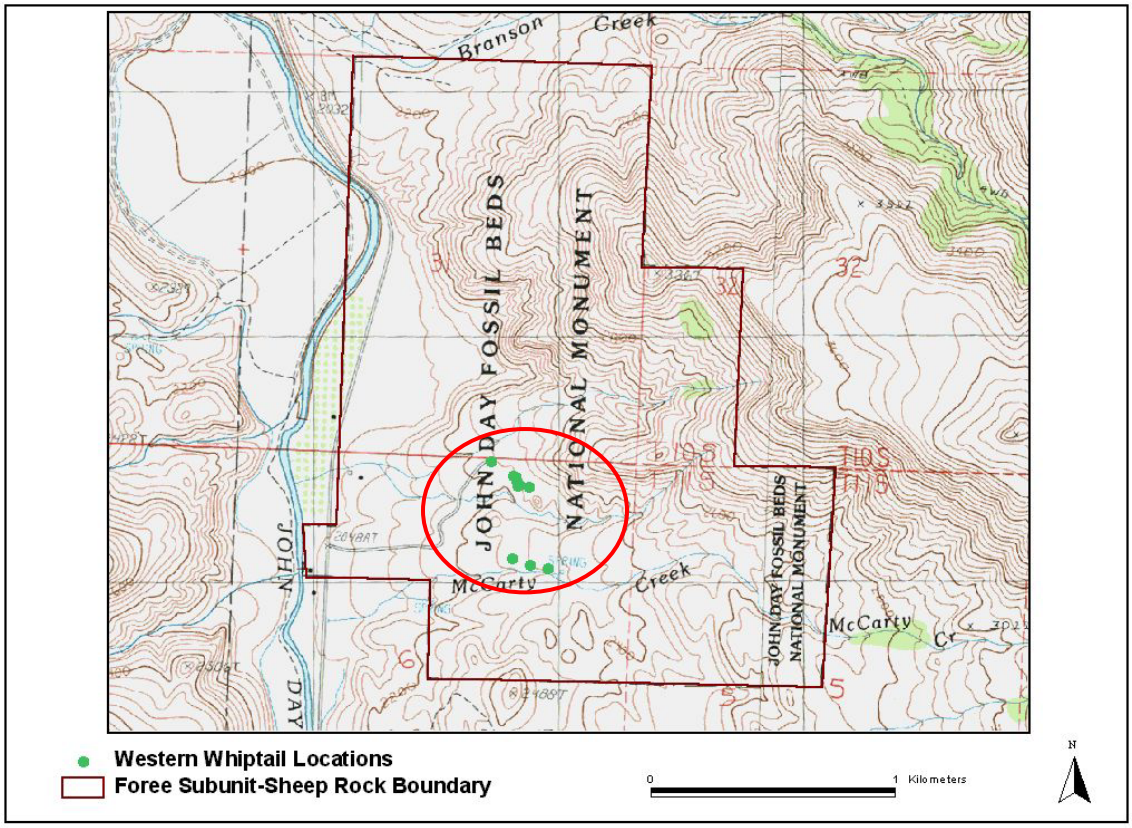

Figure 23. Western whiptail (*Cnemidophorus tigris*) locations found during the 2002-2003 herpetological inventory in the Foree portion of the Sheep Rock Unit, John Day Fossil Beds National Monument.

Appendix A

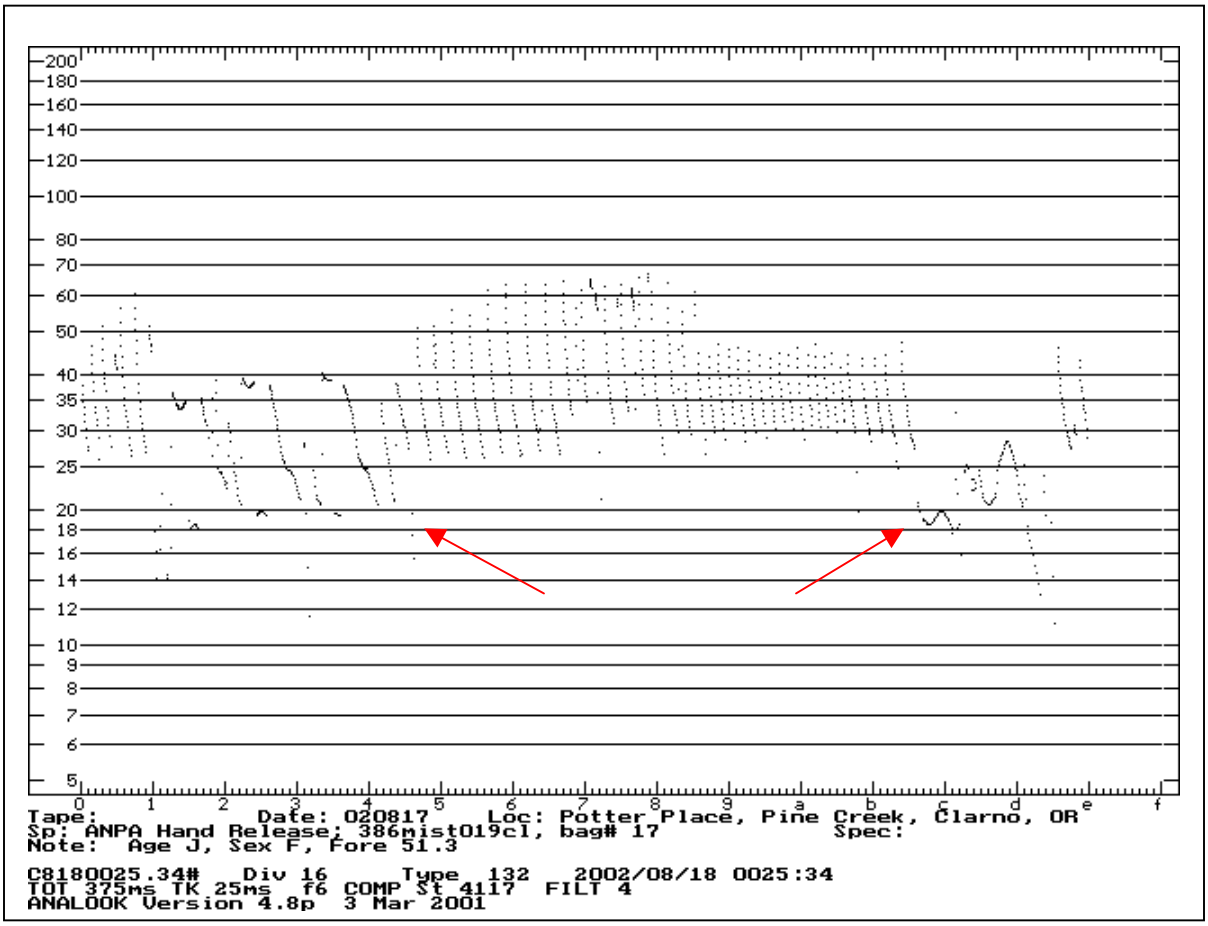

Figure A-1. A call sequence recorded from a juvenile female pallid bat (*Antrozous pallidus*) along Pine Creek, adjacent to the Palisades in the Clarno Unit of the John Day Fossil Beds National Monument. The lower calls noted by the red arrows represent social calls that are audible to the human ear. For this and all of the remaining figures in this appendix the x-axis represents frequency (Khz) and the y-axis represents time (1 unit equals 25 milliseconds and the entire axis equals 375 milliseconds).

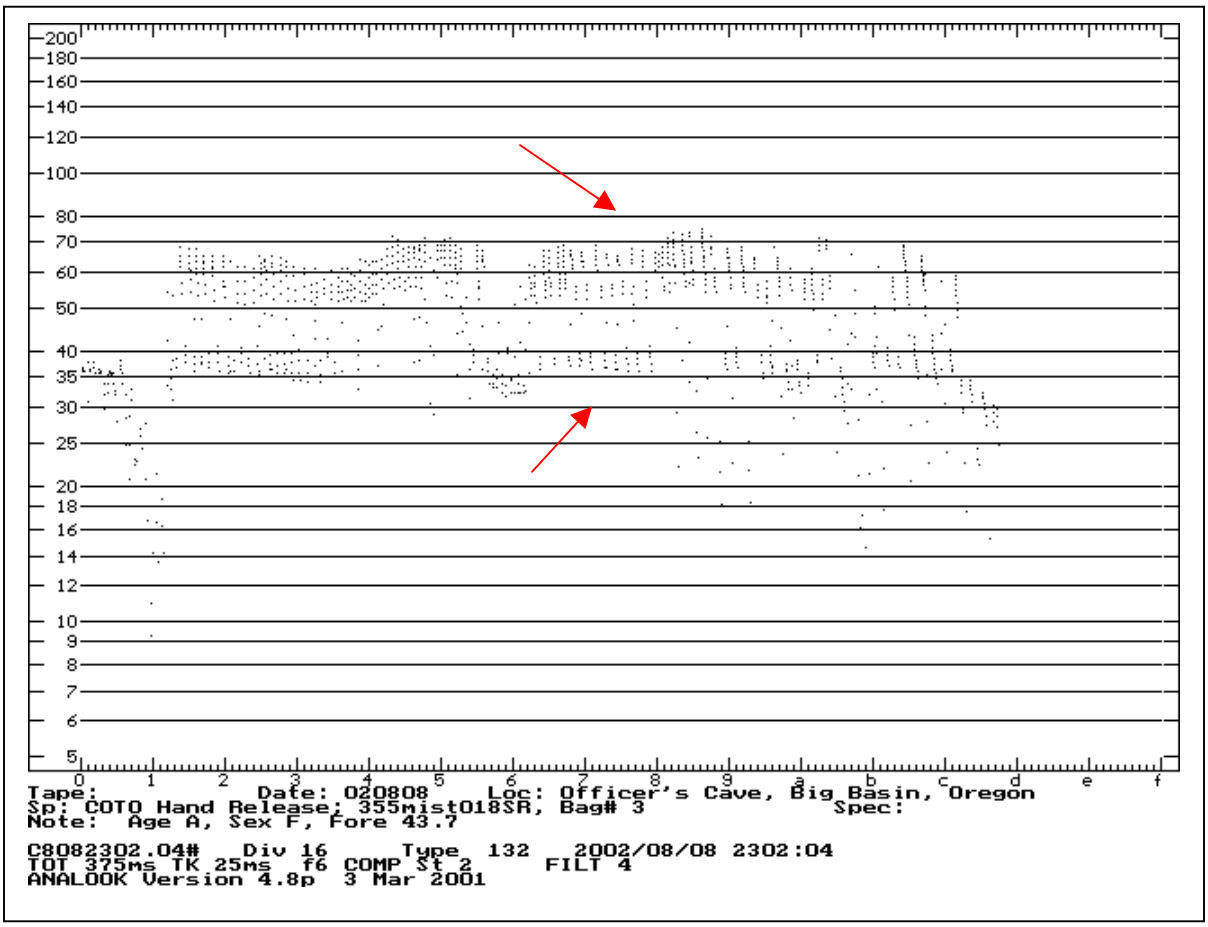

Figure A-2. A call sequence recorded from an adult female Townsend's big-eared bat (*Corynorhinus townsendii*) captured at the cave near Blue Basin in the Sheep Rock Unit of the John Day Fossil Beds National Monument. The bi-modal call structure shown by the arrows represents two different harmonics and is typical for this species.

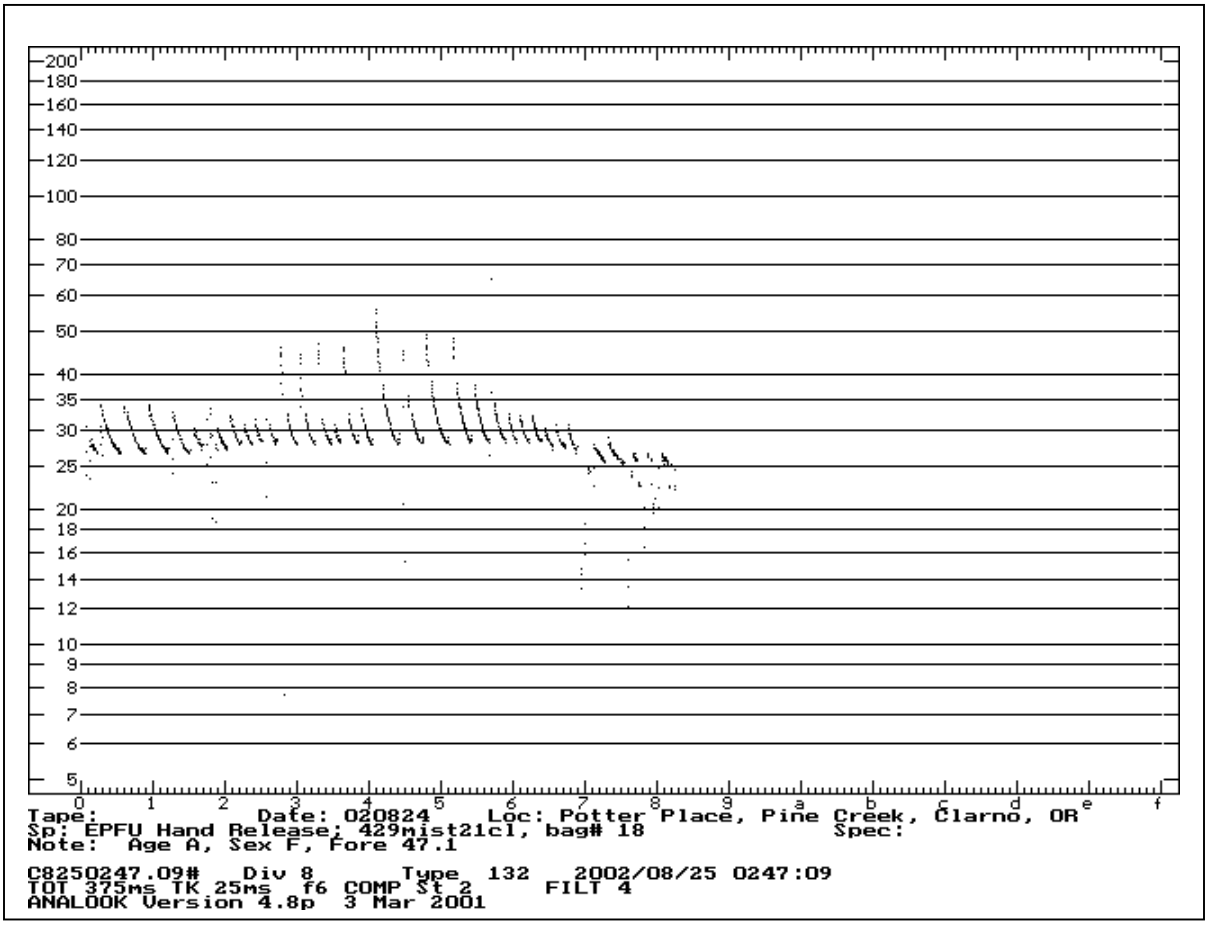

Figure A-3. A call sequence recorded from an adult female big brown bat (*Eptesicus fuscus*) along Pine Creek adjacent to the Palisades, in the Clarno unit of the John Day Fossil Beds National Monument.

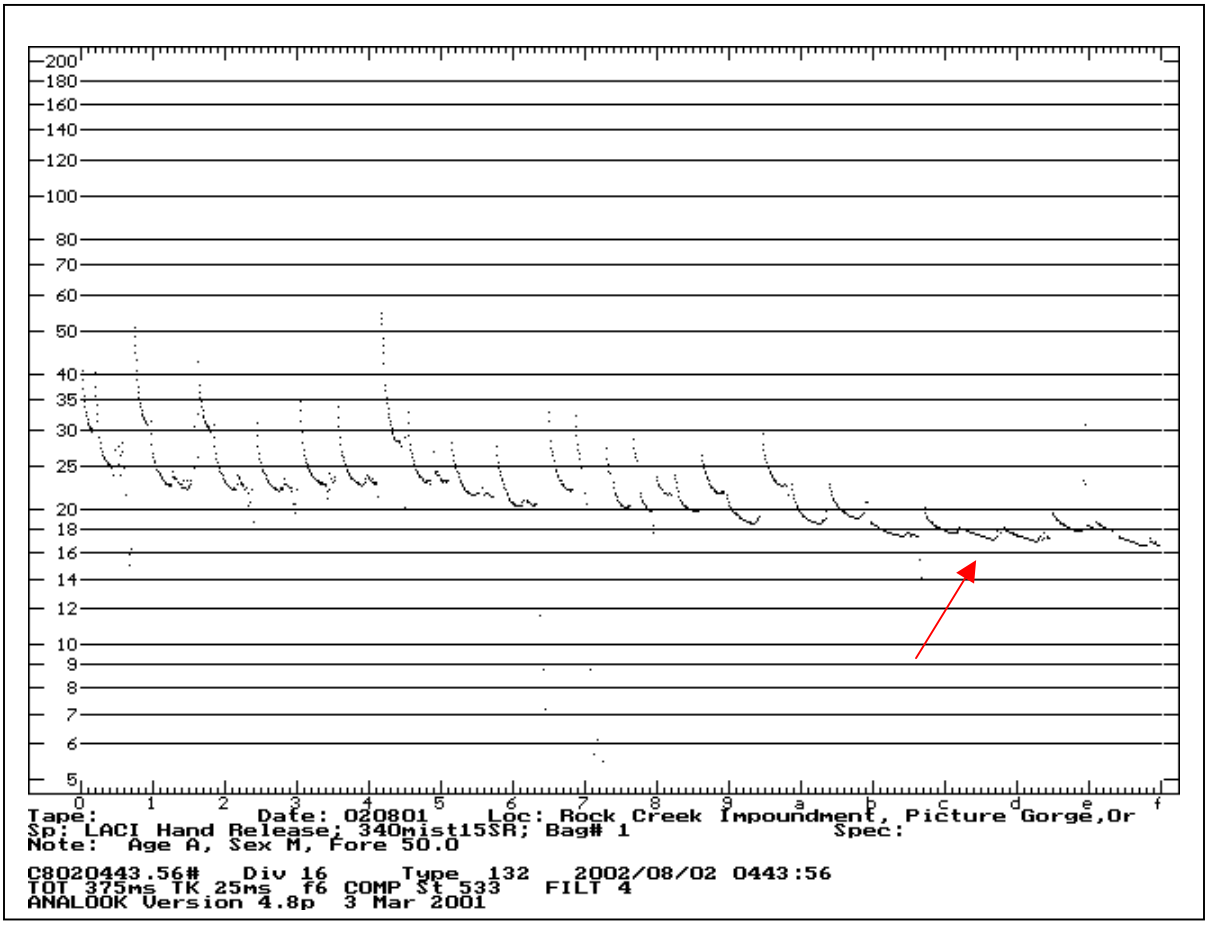

Figure A-4. A call sequence recorded from an adult male hoary bat (*Lasiurus cinereus*) captured along Rock Creek in the Sheep Rock unit of the John Day Fossil Beds National Monument. The alternating pattern of minimum frequencies between individual calls is typical of this species. This species occasionally produces calls audible to the human ear and the red arrow points to an audible sequence of calls.

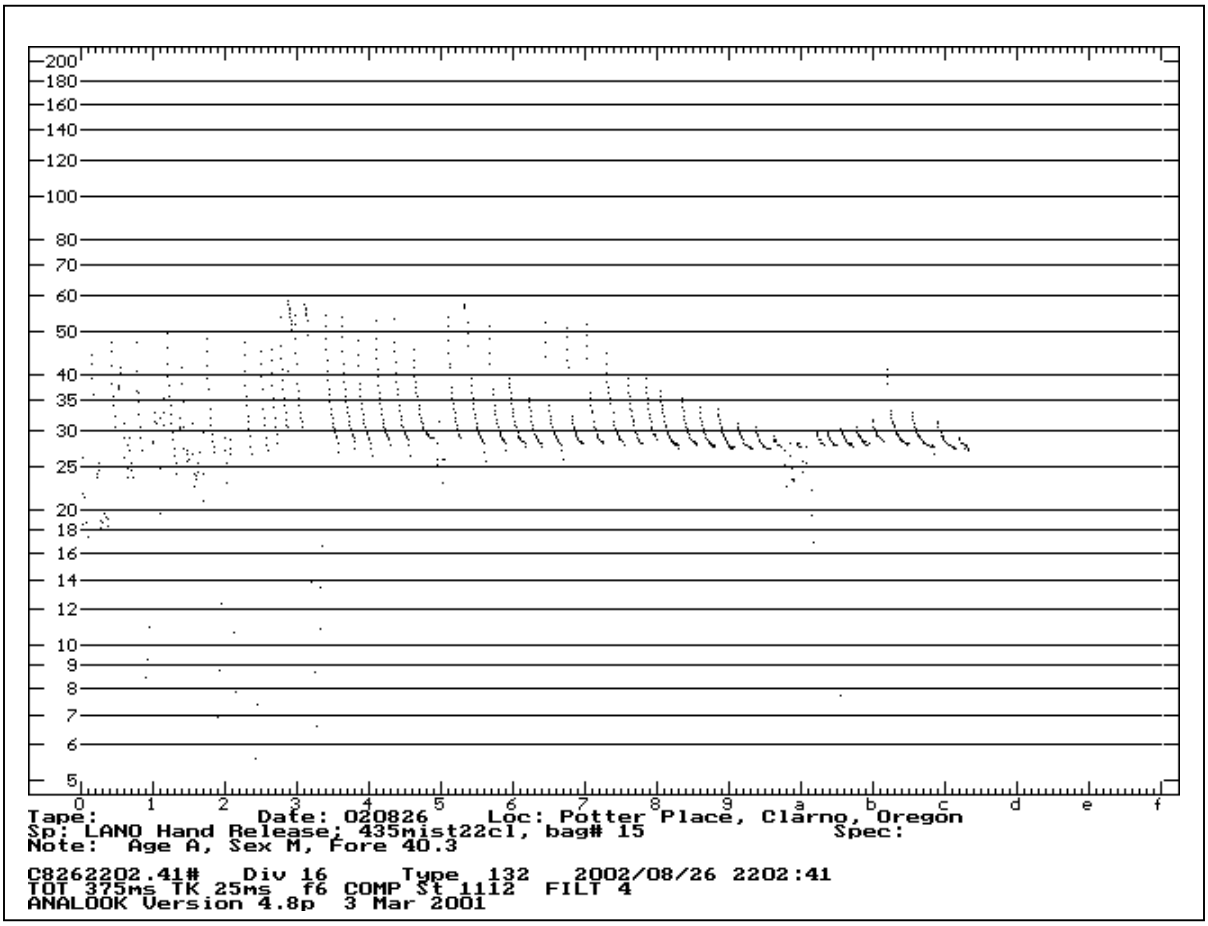

Figure A-5. A call sequence recorded from an adult male silver-haired bat (*Lasionycteris noctivagans*) captured along Pine Creek adjacent to the Palisades in the Clarno unit of the John Day Fossil Beds National Monument.

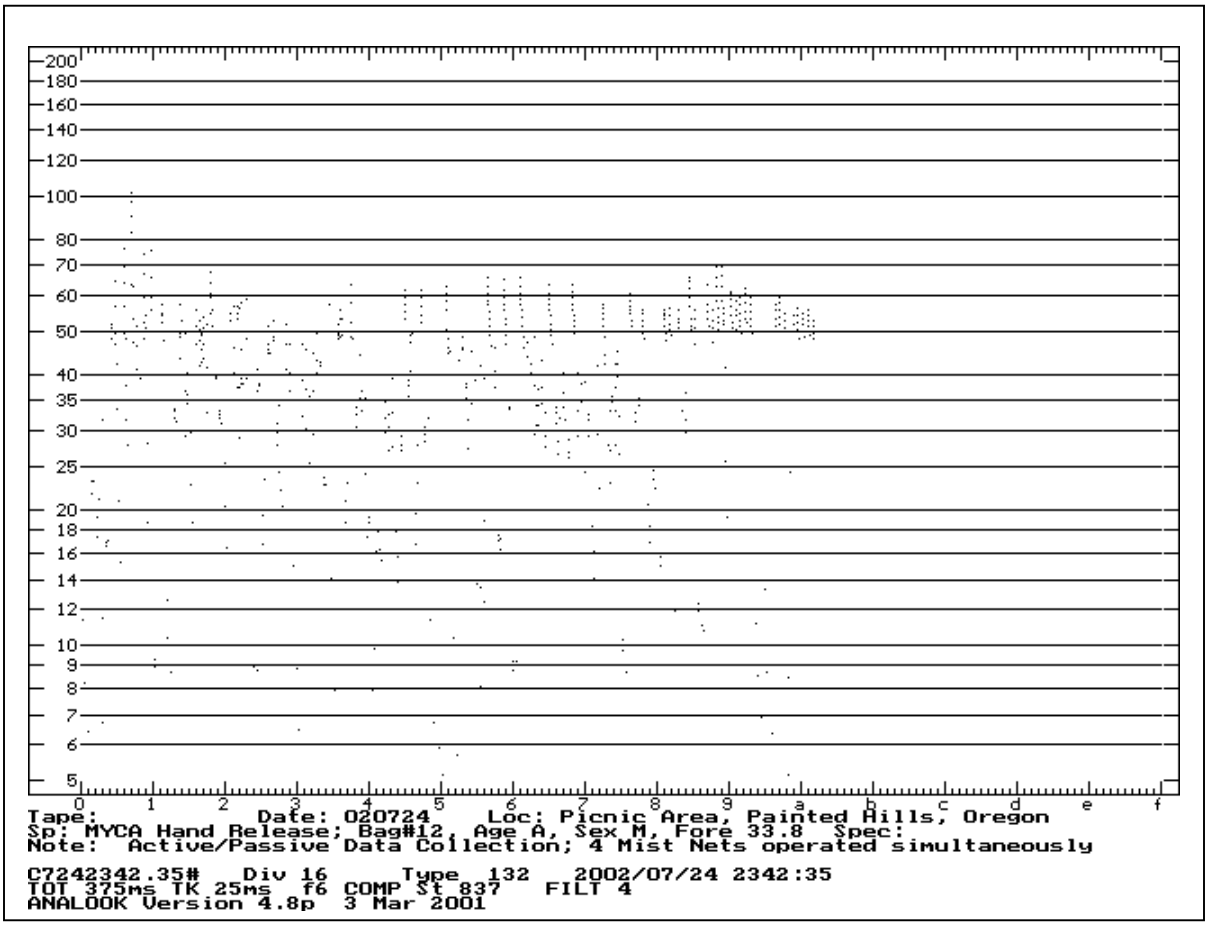

Figure A-6. A call sequence recorded from an adult male California myotis (*Myotis californicus*) captured along Bridge Creek below the picnic area of the Painted Hills unit, John Day Fossil Beds National Monument. This sequence is a poor representation of the species' typical search phase call pattern but no good hand release recordings were obtained from this species. The following figure is included to present a more representative call sequence.

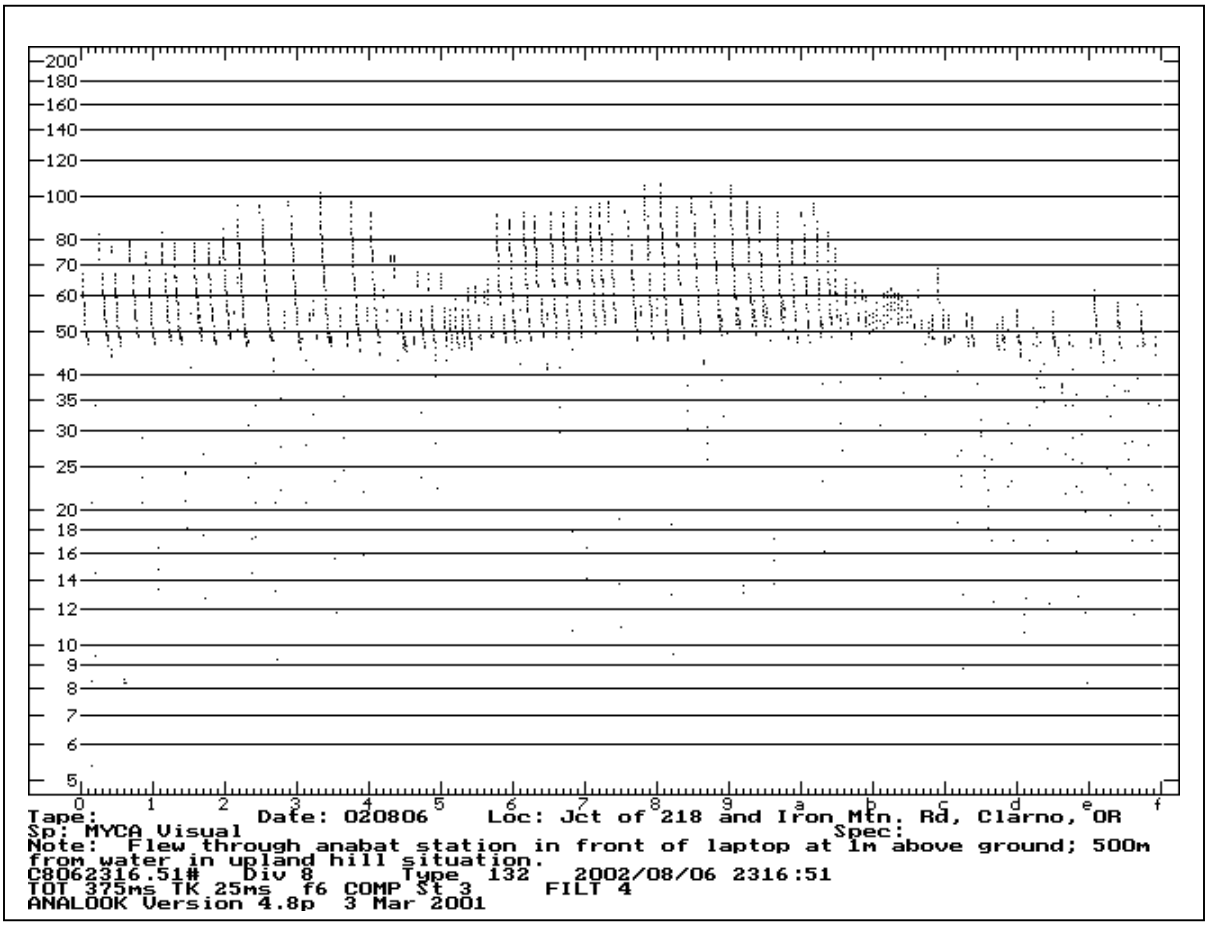

Figure A-7. A call sequence recorded from a free-flying California myotis near the Clarno unit of the John Day Fossil Beds National Monument.

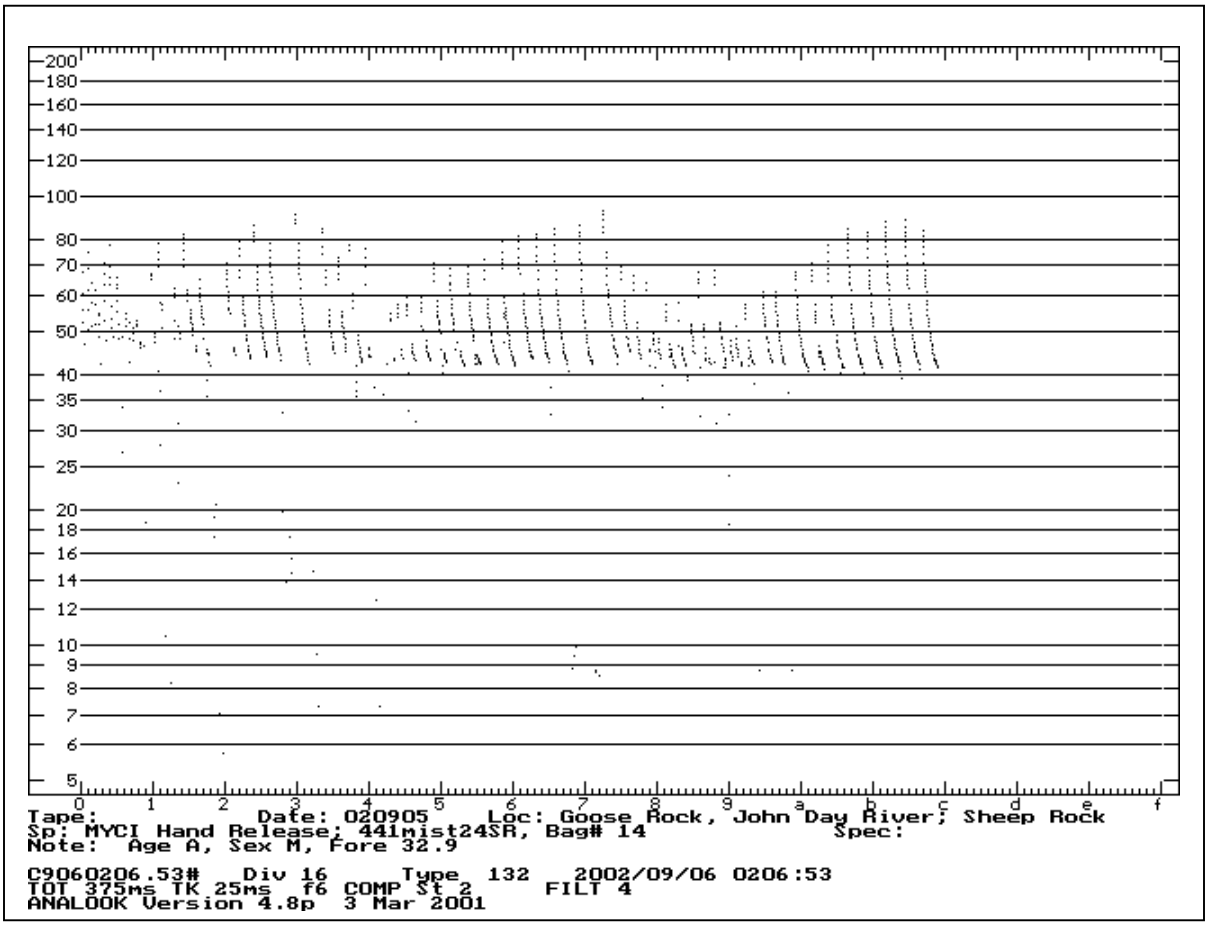

Figure A-8. A call sequence recorded from an adult male western small-footed myotis (*Myotis ciliolabrum*) captured along the John Day River near the "Little Goose Rock" formation south of Goose Rock, in the Sheep Rock unit of the John Day Fossil Beds National Monument.

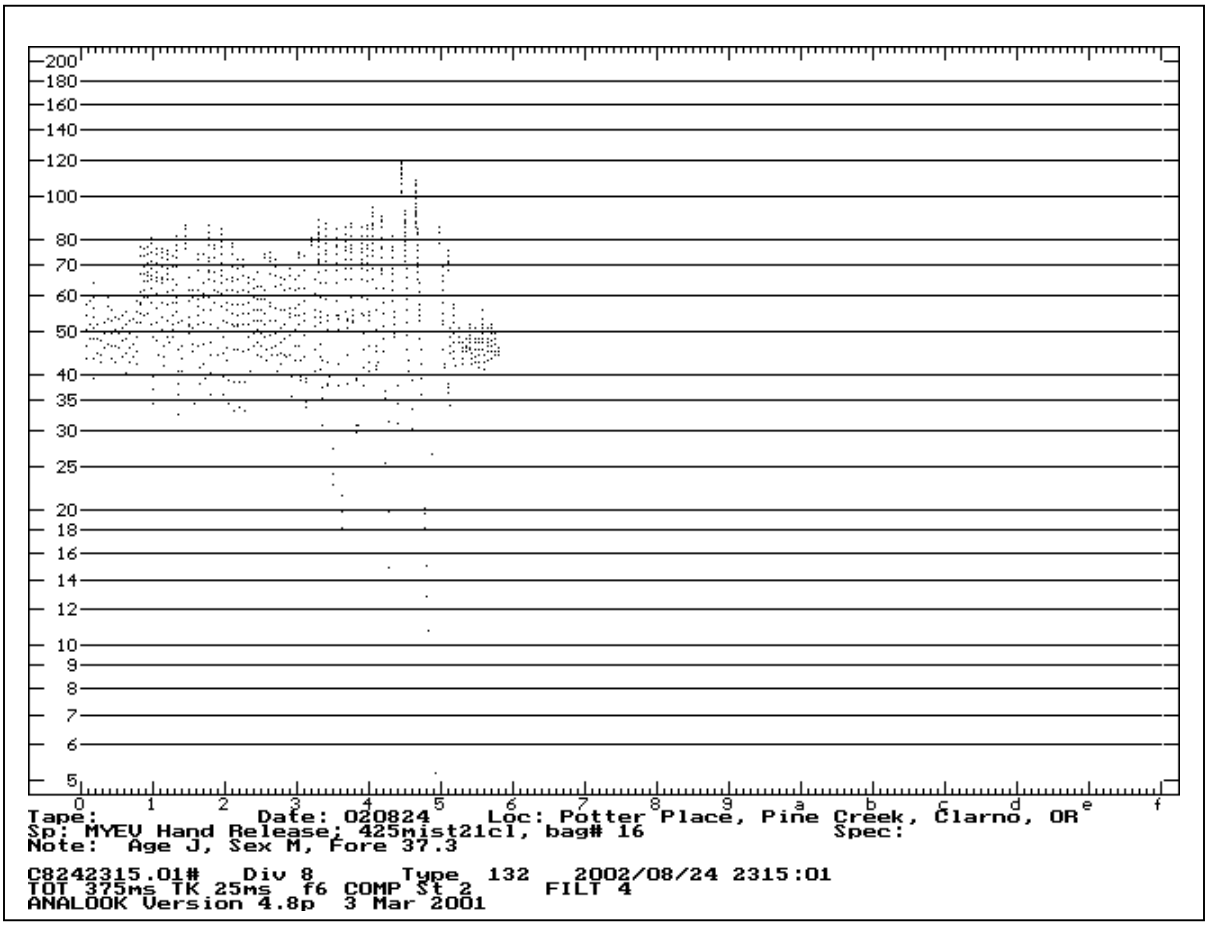

Figure A-9. A call sequence obtained from a juvenile male long-eared myotis (*Myotis evotis*) captured along Pine Creek adjacent to the Palisades in the Clarno unit of the John Day Fossil Beds National Monument. The call sequence is not adequately representative but this was the only individual captured or observed in the monument during 2002.

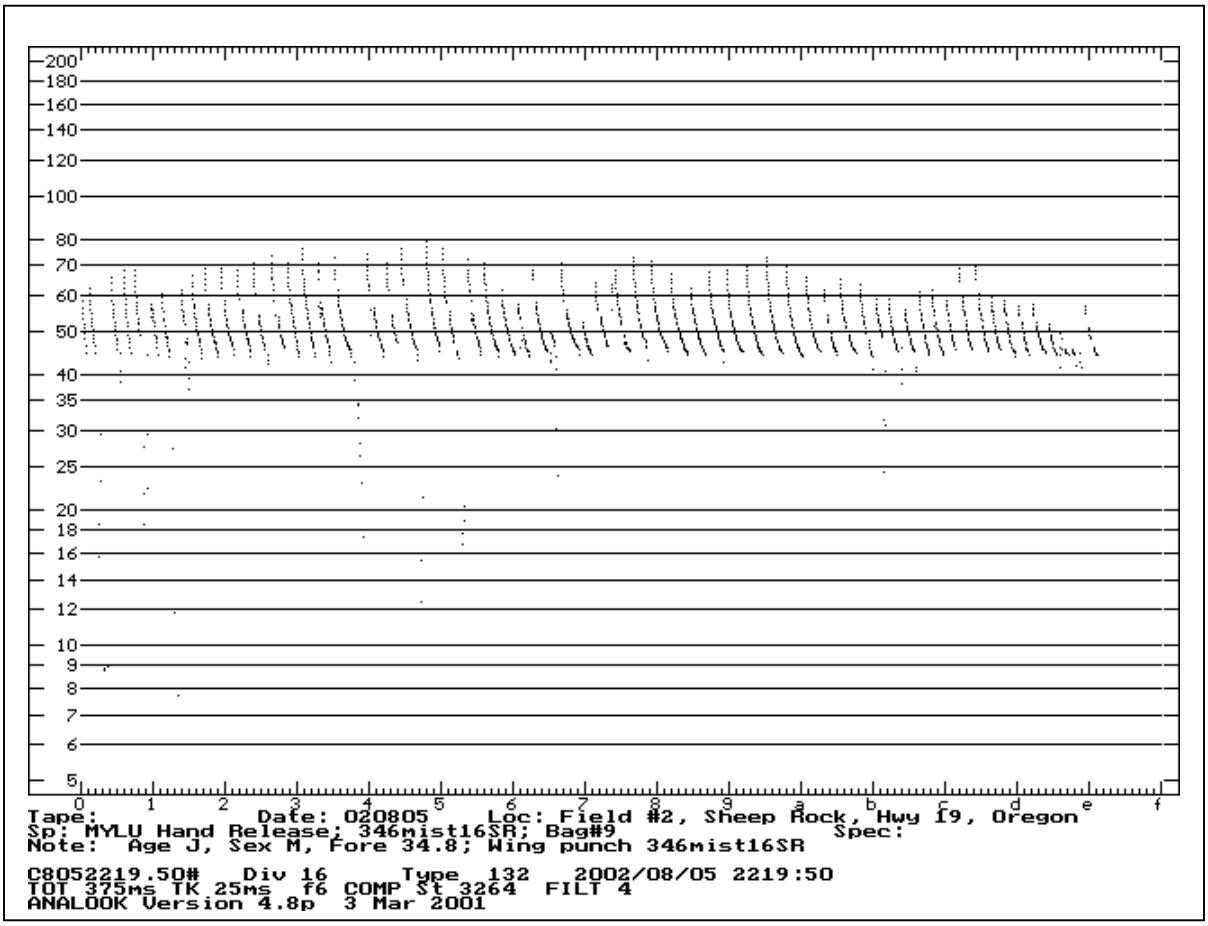

Figure A-10. A call sequence recorded from a juvenile male little brown myotis (*Myotis lucifugus*) captured along the John Day River below field #2 north of Picture Gorge in the Sheep Rock unit.

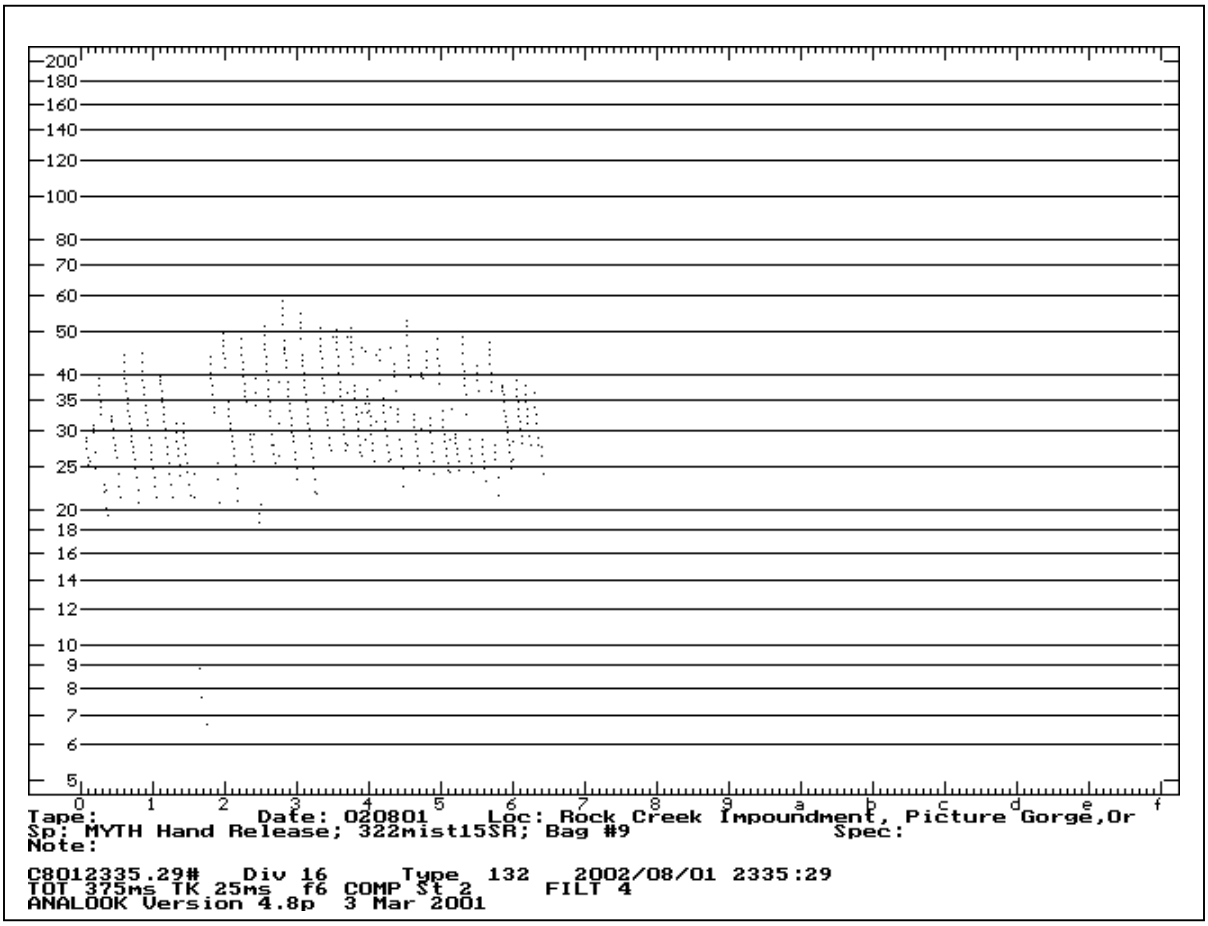

Figure A-11. A call sequence recorded from a juvenile male fringed myotis (*Myotis thysanodes*) captured along Rock Creek in the Sheep Rock unit of the John Day Fossil Beds National Monument.

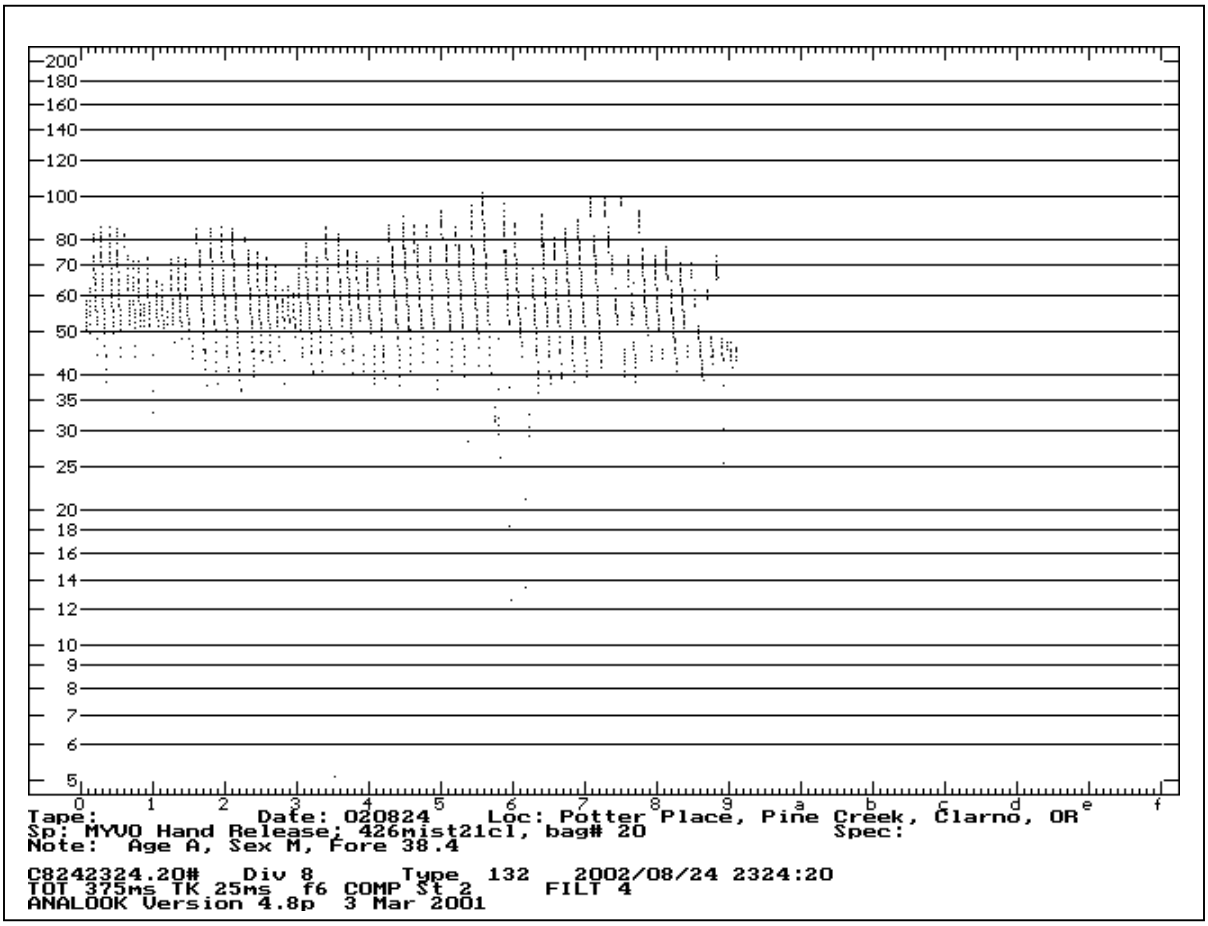

Figure A-12. A call sequence recorded from an adult male long-legged myotis (*Myotis volans*) captured along Pine Creek near the Palisades in the Clarno unit of the John Day Fossil Beds National Monument.

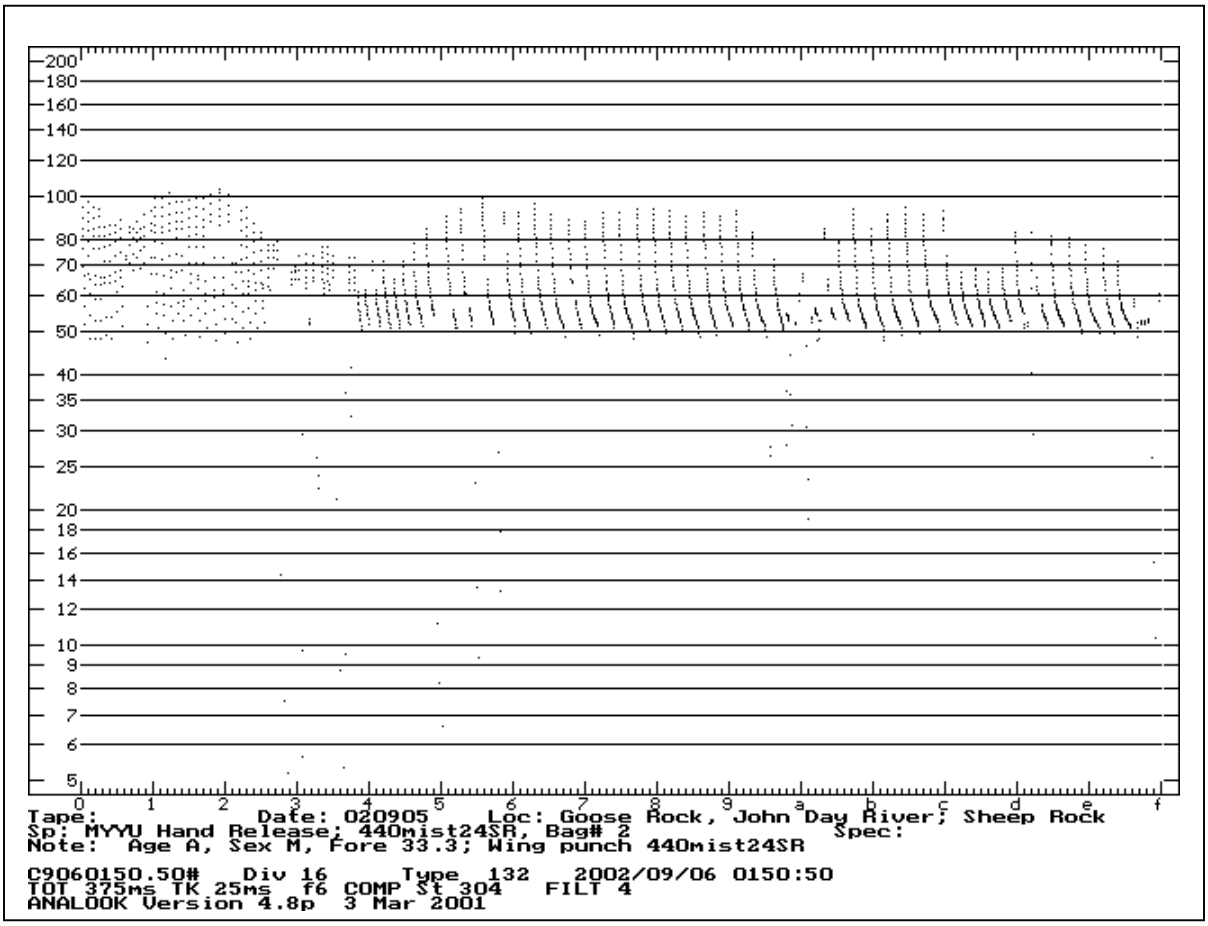

Figure A-13. A call sequence recorded from an adult male Yuma myotis (*Myotis yumanensis*) captured along the John Day River near the "Little Goose Rock" formation south of Goose Rock, in the Sheep Rock unit of the John Day Fossil Beds National Monument.

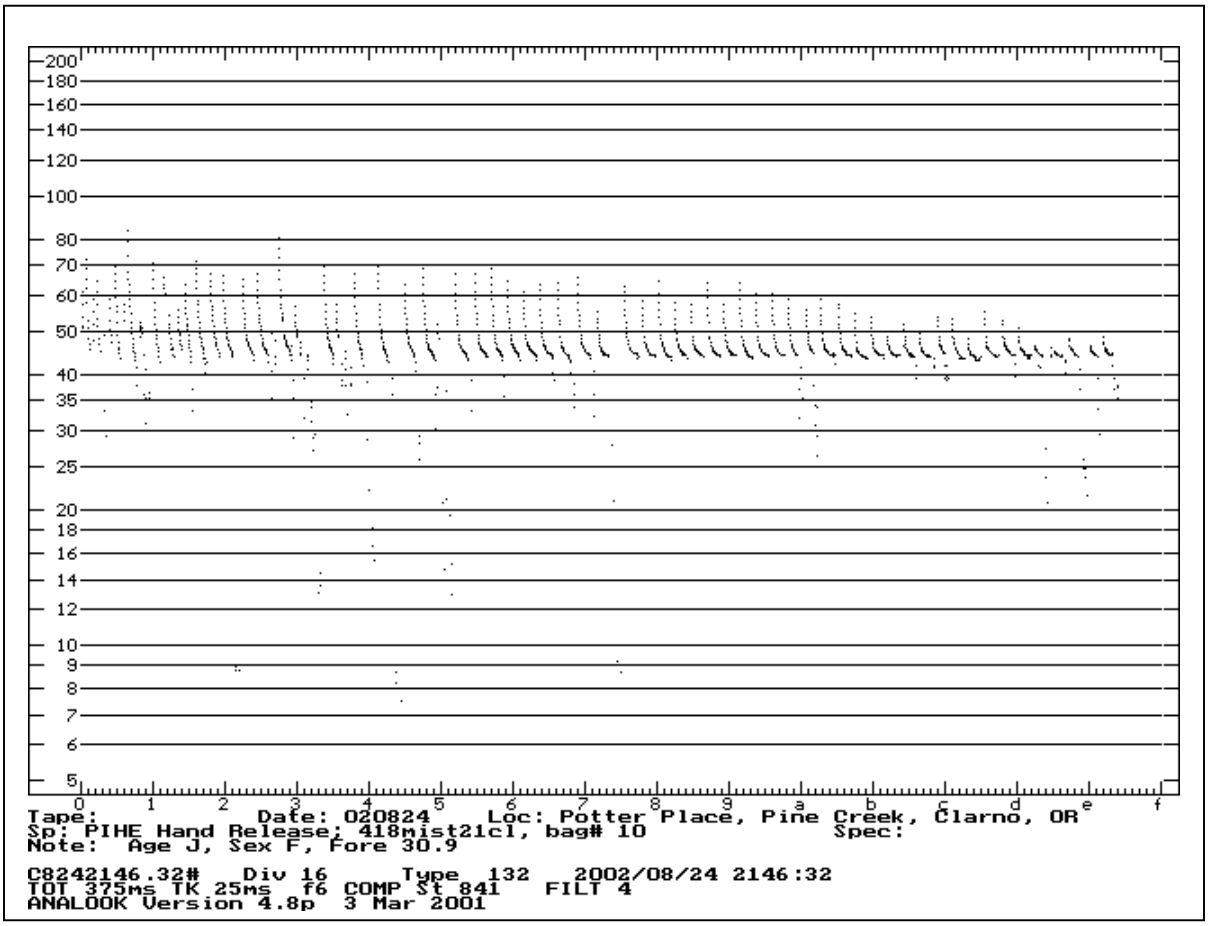

Figure A-14. A call sequence recorded from a juvenile female western pipistrelle captured along Pine Creek adjacent to the Palisades in the Clarno unit of the John Day Fossil Beds National Monument.

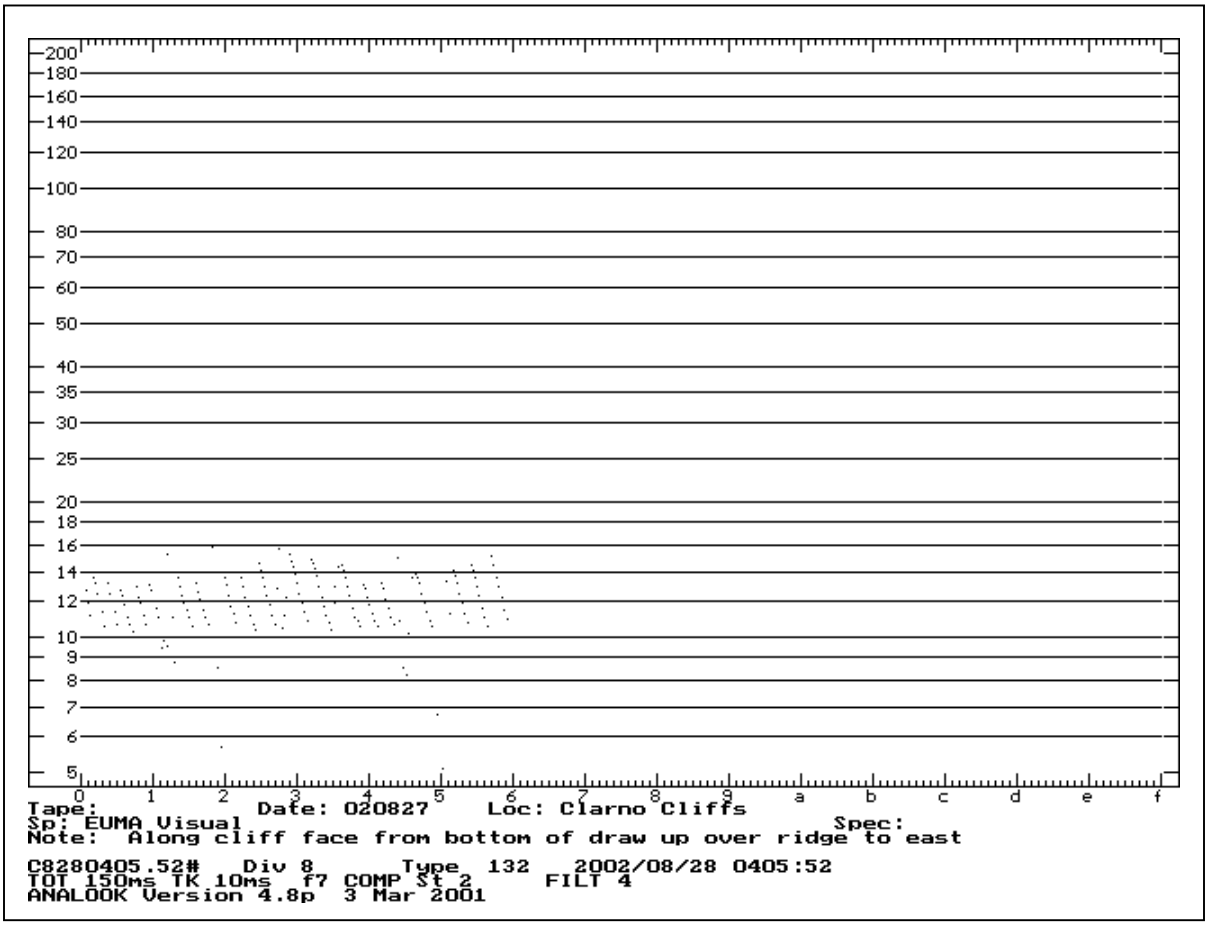

Figure A-15. A call sequence recorded from a free-flying spotted bat (*Euderma maculatum*) observed along a set of cliffs at the John Day River near Clarno, Oregon.

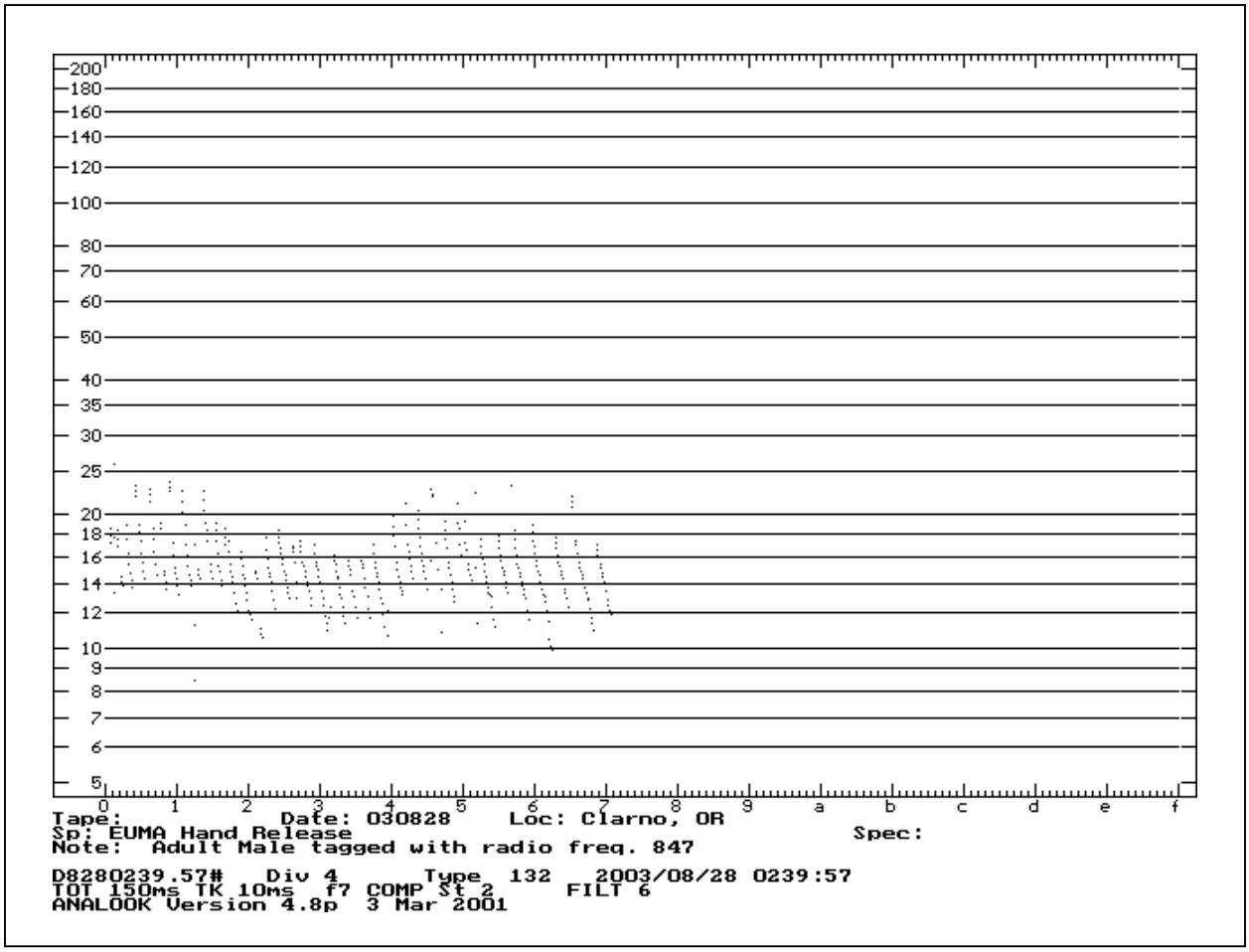

Figure A-16. A call sequence from a hand-released spotted bat captured on top of the cliffs overlooking the John Day River at Clarno.